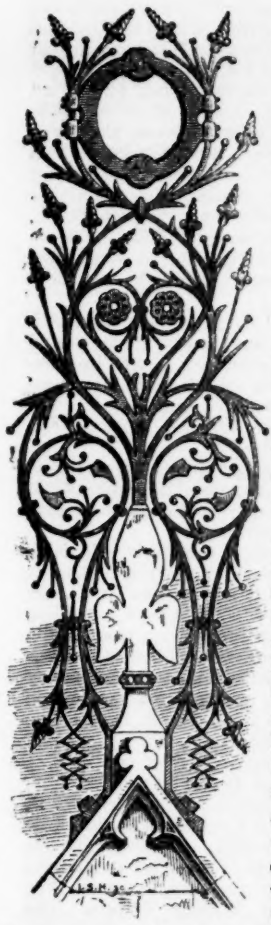
The Builder.

VOL. XXII.—No. 1119.

The Northern Low-level Sewer.



OUR recently published particulars of the main arrangements and of some of the chief structural details of the outfall of the London sewerage, north of the Thames, will have reminded the reader, even resident at a distance from the metropolis, of the conditions of level which had to be considered in the general design. It was possible, by one sewer of interception for the drainage of Hampstead, Holloway, Stoke Newington, and districts similarly elevated, and by another for that of Kensal-green, Bayswater, Oxford-street and Piccadilly, Old-street, and Bethnal-green, (including branches,) to get streams to flow converging to a point at Old Ford; whence this sewage of the High-level and the Middle-level could continue in parallel channels to the spot, near Barking Creek, at which is situate the combined arrangement of reservoir and outlets which we described. To effect the drainage of those levels, thus, by gravitation only, and not to bring the outlets down to much below the level of high-water, involved, as we have seen, an incline not greater than 2 feet per mile. But, a large portion of the metropolis is by no means so advantageously circumstanced as the districts specified. Under the arrangements which must remain up to the completion of the new works, the low-levels can be drained only at or about the time of low-water; whilst provision of an intercepting sewer results in bringing the sewage finally to a level which is below low-water mark, by some 10 feet, or even much more, if the length and fall have been continuous. Thus, the operation of lifting sewage is an essential feature of the actual scheme for London; and we were amongst those who in the early stages of the design, looked with anxiety to the description of machine that might be used for a purpose for which some persons had declared valved pumps to be inapplicable. When, shortly, we revisit the south side of the Thames, we may have an opportunity of inspecting the machinery, some of which we have described from the original drawings, that is or is about to be in operation. Mr. Bazalgette's report presented on Friday in last week, shows that since our recent articles were written, a portion of the sewage of the south side has commenced to be discharged at Crossness Point. The pumps, however, there, are not at work: the arrangements are only temporary; and the Deptford Pumping machinery has only in part been brought into use. The benefit derived by the Northern Low-level districts, so far, from the sewerage, is that the sewage of the higher levels, or so much of it as is connected with the completed portion of the systems, no longer adds its volume to contents of those sewers that are tide-locked. The area of London, which is under the conditions of level that have been described, comprises not merely the margins of the Thames, but districts extending far inland, and many of them thickly populated.

Owing to the breadth of London from east to west, and to the consequent length of the sewer-lines, as well as to the low level of ground at the west,—and perhaps as to the north side, to change in the design,—there will have to be in the case of each side of the Thames, two lifts. On the south side, although much of the area within the jurisdiction of the Metropolitan Board is of a high level, an underground course has been adopted for the Outfall-Sewer; so that the whole of the sewage has to be pumped at the point of outfall. The Low-level sewage is also pumped at Deptford to the level there, of the Outfall-Sewer, which continues the lines of the High-level Sewer and the Effra Branch.

On the north side, the Low-level sewerage, so to be called as belonging to the one system, connected with the lifts, or from the level involving them necessarily, has an area which commences from a point that lies even north of the Northern High-level Sewer. This point is at the North London Railway, just south of Homerton; and the area thence extends southwards (crossed at Old Ford by the parallel channels of the Middle-level Sewer and the Northern High-level), and takes in Bow and Poplar; still south of which lies the Isle of Dogs. Respecting the system for this latter district, we have no present information. In the western part of London, the Low-level system takes in Westminster, Chelsea, Fulham, Hammersmith, and Shepherd's Bush.

The whole of the ordinary sewage of the immense area comprised in these limits, and including the length of the Thames Embankment, will at last flow through a 10 feet 3 inch barrel-sewer to the spot near Abbey Mills, West Ham Abbey, mentioned by us as the site of the station where the sewage will be lifted finally to the higher level, and where a third parallel line is added to the other two to Barking Creek. The height of lift will be about 38 feet, or somewhat more than the measurement from invert to invert. The level of the invert of the sewer of the Low-level, as proposed, at this point, would not be low enough to get the requisite incline unbroken, all the way from Hammersmith: therefore there will be somewhere at least one other lift, as already mentioned. The position for it selected may be between the Chelsea Suspension Bridge, and the Victoria Station and Crystal Palace Railway Bridge. The lift there would be about 18 feet, that is from 19 feet below Ordnance datum to 1 foot below. This assumes that the course of the Low-level Sewer would be along Lupus-street; but the whole of the sewerage between Westminster Bridge and the western side of Cremorne Gardens is to be considered as unsettled. From the point last mentioned, to the limit of the Board's jurisdiction between Hammersmith and Chiswick, as well as short of Acton, the sewers are either completed or are very nearly so. For this western district, generally described as the Western Division, it was originally intended to have deodorizing works and an outfall into the Thames, just west of the Kensington Railway Bridge. But, that intention, as our readers have some time known, has been abandoned in favour of the connexion ultimately with the Low-level Sewer.

Lines of the metropolitan sewerage are marked upon a published map which has been "drawn and engraved for the Metropolitan Board of Works;" but there are many inaccuracies in it, and it can scarcely be taken as any guide. In particular, besides showing many portions of the Low-level sewerage as settled, which are not so, or which have been arranged otherwise than as shown, it shows the branch from Homerton, which replaces the Hackney Brook, in connexion with the Outfall Sewers, and not continued to the main Low-level Sewer, between Bow and Bromley, the real course of the branch, as will shortly be described.

The whole Northern Low-level sewerage with that of the Western Division, and with pumping-stations, promises before completion to have formed the subject of something near a dozen contracts. The most important of these are the contracts for the sewer and the Embankment between Westminster Bridge and a point to the west of Blackfriars Bridge, opposite the Temple. They include not merely the river-wall, the steamboat-piers, requisite works to the bridges, a sub-way, and the sewer which would form part of the Low-level line; but they include other sewers of interception, and elaborate contrivances, chiefly in connexion with old outlets, for the escape of storm-waters. The portion of the line immediately east of the Temple and in front of the Gas Works, and the length thence to Trinity-square and the north-western angle of the Tower, we must consider like the portion westward of Westminster Bridge, as not absolutely decided upon. The length between Trinity-square and Abbey Mills, with a portion of the branch taking the Hackney Brook sewage, was the subject of last week's tenders; and this we proceed to notice in detail, leaving the work of the Embankment to a future opportunity.

The length of the main line, and so much of the branch as belongs to the present contract, amount to 4 miles 4,855 feet, the main line length being 3 miles 4,485 feet and the branch length 1 mile 370 feet. The main line has throughout the same inclination as the lines passing to Barking in the embankment, namely 1 in 2,640, or 2 feet per mile. At the lowest point at Abbey Mills, the invert is to be about 17 feet 6 inches (17·590) below Ordnance datum; and this will be about 24 feet 6 inches below the present surface of the ground. The level of the inverts of the parallel lines in the embankment being about 19 feet 6 inches (19·439) above the datum, the height from the invert of the lower level to that of the upper is seen to be about 37 feet (37·029). The level of 17 feet 6 inches below the datum, should be considered as very nearly 11 feet below low-water mark. The present surface of the ground at the site of the pumping-station is 6 feet below Trinity high-water mark. Fortunately, a considerable portion of the length of the main line will pass through the London blue clay, and can be tunnelled; but this condition of the strata has not been found to exist between the site of the pumping-station and the branch of the Lea called Three Mills Wall River, a length of about 1,400 feet. At the first boring where the sewer is to commence, or actually about 450 feet at present from the sewers-embankment, the water-line was reached at 2 feet from the surface after passing through 6 inches of black soil and 18 inches of yellow clay. Below these were 2 feet of clay and gravel, 12 feet of sand and gravel, 2 feet of grey clay, and 14 feet of soft sand, in which last the level of the invert of the sewer would fall. Starting little below it, the section shows 11 feet of loamy sand, and lastly stiff clay. Tracing the course of the sewer upwards, the second boring, near to the stream just named, showed the water-line to be in peat of 4 feet in thickness, underlaying loamy clay of 1 foot 6 inches thickness, and black soil of 1 foot. Below the peat, the crown of the sewer would come in 19 feet of sharp sand and ballast; just below which sand, the invert would fall within the London clay, which is 14 feet 6 inches thick at

this point, and overlays 6 inches of soft white sand, 1 foot 6 inches pebbles and sand, 3 feet black sand, 6 inches shells and clay, 4 feet of coloured clay, and a stratum yet lower, of sand and clay. The London clay is fairly entered by the line of the sewer, at the spot where the third boring was taken, which is on the western bank of the main channel of the Lea. Here the surface of the ground is 15 feet higher than the level at the starting-point of the sewer. The water-line stands at 2 feet below the surface, in made ground, which has here a thickness of 9 feet, overlaying 2 feet of sand and gravel and 4 feet of yellow clay. Below the yellow clay begins the London clay, that is to say precisely at the level of the surface at the starting-point. At the next point, near the Stepney Union, the top of the London clay, the water-line, and the level of the surface of the ground, are still higher. The strata above the clay comprise 3 feet 7 inches of made ground, 7 feet 6 inches of pit gravel (below the centre of which is the water-line) 2 feet of sharp sand, 8 feet of coarse gravel, and 2 feet of yellow clay. The greatest elevation of the surface recorded on the sheet of sections of the strata, was found beyond the western termination of the portion of the main line now under notice, namely in Eastcheap, where the surface is 51 feet above Ordnance datum, or 38 feet 6 inches above Trinity high-water mark, and where the made ground is 15 feet in thickness. We may mention that in Cannon-street West, near to the end of Walbrook, where the surface has fallen to just over 32 feet above the datum, the made ground was found to be 19 feet 2 inches in thickness. Immediately below it came 11 feet of yellow clay; below which was the London clay. At this spot, the crown of the arch of the sewer intended but not yet tendered for, will fall just within the London clay. Opposite Bow-lane, the surface of the ground has risen about 14 feet 6 inches, and that of the blue clay has risen considerably. We have several times drawn attention to the importance and interest of such information, which Mr. Bazalgette's trials have furnished in abundance.

The course of the sewer after the meadow-land which is next the starting-point, is under Three Mills Wall river, and a confluent stream called the Three Mills Back River, and under the Lea to Three Mills-lane, under houses, and crossing under St. Leonard's-street, under the ground at the south-east angle of the Stepney Union, under the Tilbury and Southend Railway, and the North London Railway branch, and under and along Devon's-lane, St. Paul's-road, and part of Turner-road, parallel with the North London main line, and thence parallel with the canal, and crossing under it in the same line with Salmon's-lane. From Salmon's-lane the sewer skirts the south-eastern side of the railway to the Commercial-road, under which it crosses under the line. This is close to the junction of the North London Railway, with the Blackwall line. Again, close to this junction, the sewer-line turns southward to cross under the Blackwall Railway, after which it passes by a line of streets which are generally parallel with the railway, and north of the London Docks, through Ratcliff, Shadwell, and along Cable-street and Royal Mint-street, to the point near the Tower already mentioned as the termination. Here the invert has risen somewhat more than 17 feet 6 inches (17·69), that is in the length of 3 miles 4,485 feet, but is still rather more than 3 feet below low-water level. The branch, of which a portion is in the present contract, will join the main line in St. Leonard's-street; and eventually, a branch from Poplar and the Isle of Dogs may join somewhat westward of the same spot.

The sewer is to be all of the barrel form. The dimensions, again tracing the course upwards, are in the clear diameter, for the first 2,795 feet, the already mentioned 10 feet 3 inches; for 1,000 feet 10 feet; for 4,700 feet in Devon's-lane and St. Paul's-road, to Cotton-street, Bow Common, 9 feet 9 inches; for 5,030 feet, ending in Brook-street, at Devonport-street, Commercial-road, 9 feet 6 inches; for 2,910 feet in Back-road, and ending at Cannon-street-road, 9 feet 3 inches; for 1,660 feet in Cable-street, and ending at Leman-street, 9 feet; and, for 2,230 feet the remainder of the length, 8 feet 9 inches.

The portion of the largest diameter, which passes through the worst soil, will be constructed of four rings of brickwork in cement; and the outer ring, all round, will be covered with Seyssel asphalte, 1½ inch in thickness. The method of construction will continue to the point where the branch, Hackney Wick Branch Sewer, joins in, in St. Leonard's-street, Bromley. This length of the main sewer, the 2,795 feet, will also have a line of 12-inch stone-ware drain piping laid externally along and under the invert; and the whole, both sewer and pipe, will be encased in Portland cement concrete 9 inches thick at the sides, and flat-bedded, and finished at the top so as to have a general square form of the exterior as shown in section. Moreover, well-tempered clay-puddle is to be placed over and by the sides of the concrete, 2 feet in thickness. The precautions are intended to prevent the slightest leakage into the sewer, of water from the ground, or from the streams which will pass over or near the sewer. The remainder of the work of the main line will be simply of four rings of brickwork in cement. There are sewers existing in various portions of the line, and above the level of the work, as in St. Paul's-road, Back-road, Brook-street, New-road, Cable-street, and Royal Mint-street. These will, of course, require careful handling.

The Hackney-wick Branch, so far as belonging to the present contract, is the lower end of a line which formed part of the High-level contract. The northern portion of the line was completed with the High-level Sewer, by Mr. Moxon; and has been described by us. We may mention, however, that this northern portion of the branch is joined by a syphon to those storm-water outfall-sewers that run, below the main lines of the High-level and Middle-level sewers, to the Lea; so that at present the Hackney Brook sewage is still passing into the Lea. The design, however, was to carry that sewage crossing under the storm-water outfalls, and to form a connexion with the Low-level main line as stated. The length at present in question, following the course downwards, will pass from the Outfall Sewers, by Old Ford-road, and generally south-eastward, crossed by the Great Eastern Railway, and coming near to the western bank of the Lea, crossing High-street close to Bow Bridge, and turning round by the Bow Brewery, to pass along High-street, Bromley, to the junction with the main line in St. Leonard's-street. This sewer, 1 mile 370 feet in length, is to be constructed as a 4-feet barrel sewer of three rings in cement. At the lowest point it is about 16 feet 6 inches below Ordnance datum; and thence for 5,650 feet, the inclination will be 1 in 273, or 19 feet 4 inches per mile. Thus in the length of High-street, Bromley, there will be a fall of 10 feet 6 inches for the sewer. The remainder of the length will have an inclination of 1 in 533, or 9 feet 9¼ inches per mile: the invert of the portion of the sewer at present constructed being, at Old Ford, 9 inches above Ordnance datum. The line, judging from the borings, will pass entirely through the London clay.

There are no novel provisions for ventilation of these sewers, more than in any of the lines which we have described. Connected with the Low-level Sewers there will be circular shafts; which, in the case of the main line, start from the sewer with a diameter of 5 feet, and rise to 3 feet, where the shaft is covered with the ordinary grating laid in the street-paving. The arrangement of the side entrance includes a shaft 6 feet in diameter, domed over and covered by a ventilating-grating, and containing a circular staircase.

Relative to our observations when we published the list of tenders, that the difference between the highest and lowest was more than 100,000*l*., it is but right to direct attention to the fact that there must be, in work of this character, a large amount of materials and labour for which the contractor has little guidance beyond general clauses in the specification, and the information given by borings. Here, in the tunnelled portions of the work, all cavities, from whatever cause arising, are to be filled up solid to the maiden ground, with brickwork in cement; and all timbering, &c., requiring to be left in, is to be at the contractor's expense. In open cuttings, indeed, timber left in, is to be paid for as extra. But the contractor is held responsible for any damage which may occur, as where the sewer passes under the Lea, and under the Regent's Canal; he is to make terms with owners, lessees, and occupiers, and to pay all compensations, including those for loss of trade or rent. He is of course to provide all machinery and contrivances for pumping; for, "no part of the sewer" is to "be suffered to become water-logged." The experience of Mr. Rawlinson in the district of West Ham, to which we referred in one of our articles, would help to show what may be expected in some portions of the ground traversed.

The works are to be finished in eighteen months from the time at which the order to commence is received; or the contractor is to pay 50*l*. per day as liquidated damages.

Some differences from the manner of executing the work of the Outfall Reservoir, are to be remarked in clauses of the specification. The concrete is to be formed, in place of the one measure of blue lias lime and six of ballast, of one of Portland cement to seven of ballast, the latter to contain one of sand. There is yet room for inquiry into the best method of mixing concrete. Some say there is error in the usual mixing with hot lime, that the lime and sand should be mixed before ballast is added, and that there is no reason why the material should not be used *en pisé* above ground, and afford walls thicker by one-third, than those of brickwork, whilst at one-third less expense. Certainly, in France, as by Coignet, there has been much done that merits attention. In the clause of the specification relating to cement, the material is required to be mixed with sand, one part of each, excepting where the cement would be liable to be acted upon by the water before it would have had time for resistance; in which case, neat cement is to be used.

The lowest tender by Mr. Webster, which would appear to have been accepted, amounted to 229,000*l*. Mr. Edmund Cooper, who has conducted the works of the Outfall, as well as those of the High-level Sewer, and who has also the Eastern portion of the Thames Embankment, will be the resident engineer.

Some further particulars of the sewerage, now nearly completed, at the opposite extremity of London, may assist comprehension of the collective features of the Low-level.

The completed works of the Western Division include the Acton Branch, comprising 7,350 feet in length of brick and iron sewers and other works in connexion with them, and extending from the limit of the jurisdiction near Acton Vale, along the Uxbridge-road through Shepherd's Bush and across the West London Railway to Royal-crescent; at which point the branch enters the Counter's Creek Sewer, the old line which extends south-easterly, nearly parallel with the railway, passing east of the West of London Cemetery, and west of Cremorne Gardens, to enter the Thames at the Creek which forms a portion of the Kensington Canal. The Acton Branch cost 9,820*l*., including 970*l*. for extra works. The works of the Western Division proper, which are in progress, comprise the Main Line and the Fulham Branch. The total length included in the contract in the autumn of 1862, was four miles 2,175 feet; and the amount of the contract was 56,740*l*. The line originally intended to go into the Thames was not to continue quite to the river as part of the contract just referred to; and now, even the limit which was indicated has been stopped short of, near the Gas Works; whence a substituted line, or addition, is being curved round, to the north-west. The extension is to cross the Creek to a point whereat there will be a temporary pumping-station and a connexion with the Counter's Creek Sewer. The extension and connexion may ultimately be continued as the Low-level Sewer Main Line, or a branch of it, along Cheyne-walk; but this latter portion of the sewerage, as we have said, cannot be considered as decided upon.

The main line of the Western Sewers, passes north-westerly through Walham Green to the road connecting Fulham and Hammersmith; along this latter road it passes to the eastern end of Tranquilla-place, Hammersmith; it turns west to pass along Tranquilla-place, again to turn and pass north-westerly along the Queen's-road, and cross the road leading to Hammersmith Bridge, whence it continues along Cut Throat-lane, and crosses the creek to the Upper Mall, where it runs westerly to pass Hammersmith-terrace, and end with the limits of the jurisdiction in Chiswick Mall. The Fulham Branch starts from the main line, between Sands End-lane and Bagley's-lane, and passes south-westward, along the King's-road, through Parson's Green, to Church-street, Fulham, along which it runs to end at the bridge. The total length of these two sewers was originally 4 miles 1,390 feet as stated. The main line was 3 miles 1,315 feet, which must be about the present length. The length of the Fulham Branch is 1 mile 720 feet.

The lower end of the main line is considerably below low-water level. The invert is about 13 feet 6 inches below Ordnance datum, which last is 12 feet 6 inches below Trinity high-water mark. On the 15th of May, 1862, the condition

of tide was such that the level of the invert was about 12 feet 6 inches below the low-water level, and nearly 28 feet below the high-water level. The tide on the date given, rose to nearly 2 feet above Trinity mark, and did not fall much lower than 1 foot below Ordnance datum, instead of the nearly 7 feet which it fell to, at Barking, on another date. Comparison of such facts, will serve to show the difficulties of the sewerage of London, sought to be met by pumping. At the upper end of the main line of the Western Sewers, however, the level of the invert has risen to about 6 inches below Ordnance datum; and the similar end of the Fulham Branch rises above that. The main line has an inclination uniformly of 1 in 1,320, or 4 feet per mile; and it varies in dimensions from the 4-feet barrel form to the 4 feet by 2 feet 8 inches egg-shape. The Fulham branch has an inclination of 1 in 509, generally, and varies from 4 feet 6 inches by 3 feet, egg-shape, to 3 feet 9 inches by 2 feet 6 inches. The brickwork was 9 inches in thickness, and was set in Portland cement; and it was throughout the lines encased in concrete. The sewers were nearly everywhere above the blue clay, and had to be formed in trenches; whilst from strata above the sewer, water flowed copiously. At one point, now, an engine of 40-horse power is at work.

These works, originally contracted for by Messrs. Moxon & Co., are superintended by Mr. Thomas Lovick, as the resident engineer, who has also the superintendence of the western portion of the Thames Embankment, and of the northern Middle-level sewerage, which last is approaching completion.

These notes may form a fitting introduction to particulars of the work of the Embankment, which is already making itself very conspicuous on the river.

GLASS PAINTING, ANCIENT AND MODERN.*

ONE great cause of the beauty in the works of the early artists is the equality of pains they seem to have taken with all parts of their design. It accounts for the harmony which prevails between their glass and the architecture to which it is made subordinate. In the earlier styles the artistic composition of picture subjects was made effective and the groups of figures relieved from each other by contrasts of colour, rather than, as in more recent work, by opposing lines. Their shadows consisted of little else than lines, so that the glass was honoured throughout, and the right principle of a window was maintained as a thing of light. But as time progressed and the arts of mural painting and illumination became more realistic, glass-painting followed in the same strain.

There was one mode of composition often pursued throughout a window which has a most chaste and architectural effect. I mean the use of colour in the figures alone, or in the backgrounds alone; the other, as it may be, being all of white glass, diapered, or relieved by strong lines and golden-yellow stains. The grand simplicity of this effect can hardly be surpassed. There is another admirable effect produced in white glass by keeping both figures and background white. The relief of colour is given in bands and blots of it in parts of the window not occupied by those compositions. The effect I mean is produced by keeping the figures in pieces of glass of a comparatively large size, marking their outlines and principal folds of drapery and so on by very strong leading, the background being equally of white glass, but cut up into little pieces of geometrical diaper. The relief is perfect. It would be admirable for domestic use where a single window, or perhaps at most two, would be treated in this way; but there is no relief in it by colour for the cold architectural masses of church walls. Where such are all polychromed this is precisely the style of glass for the purpose. There is a modern plan, lately introduced, with something of the same object, but it utterly fails: it attempts to be pretty, and loses all the vigour which makes work in glass worth a straw. I mean the plan of taking sheets of glass, and drawing in outline figure subjects, and putting in various backgrounds, all drawn exactly in the same way and on the same piece of glass. The drawing is sometimes very creditable, but the result weak and poor in the extreme. If the makers of such work would only condescend to use glass as glass, and not like great sheets of paper, and would bear to be told that leading is not a vulgar expedient all very well for the poor benighted Goths who could not make such fine great sheets of glass as we can, they would then succeed where they now fail. It appears to me that it is the leading which gives consistency to a glass painting and vigour to its effect.

I was speaking of the improvements in the arts of painting during the fifteenth century. They were the first poison-drops which ultimately ruined the art applied to glass. Up to the end of the fourteenth century little harm was done. Shadows were used in the draperies, but they were used, as they ought to be, for glass. The folds were marked as in the previous style by strong and fine lines, the shadows in the fewest possible places so darkened as to save the rest from weakness. The points in the figure composition and the relief of the parts were maintained in the genuine spirit of glass-painting, by the contrast of colours and the shapes of the pieces, and pre-eminently by the reckless boldness of the leading.

Too much praise cannot be bestowed on the care that was lavished on the ornamental as distinguished from the pictorial parts. It is a great mistake to suppose that a high and refined sense of beauty can only be shown in figure-painting. Ornamentation is to art what the varieties in form and tint of leaves and flowers are to nature, and often expressive of its greatest beauty. It is a branch of art never despised by the really great artist. The principle of an arabesque, if only used in the right place, is admirable. The Early Gothic and Norman arabesques were magnificent. There is just in them that legitimate place for wild fancy which is wanted somewhere,—a sort of safety-valve for fun, which must break out somewhere, and might otherwise become dangerous.

About the middle of the fifteenth century the treatment of pictures in glass became more and more relaxed. The artists had hitherto been guided by the safe principle of deference to the architecture of which their work formed a part. After that time the architect's design seemed to be beneath the notice of the painter's condescension. He spread his picture over the whole window-space, regardless of all obstacles.

A little later than this a magnificent style of glass-painting was developed in Italy. Glass was treated pictorially indeed; but, like most genuine artists as they were, the Italian designers of those pictures felt intuitively that the compositions and resources of other styles were unsuitable for glass. So they went in for light and colour like men; and designed, for breadth of contrast and vigour of effect, figures, architecture, fruit, flowers, animals; and then leaded them all together, regardless of atmospheric effects and perspective, and with an equality of colour throughout and relief in the detail just enough to save all the objects from confusion. The effect was the most powerful that glass could produce. It was flat, architectural, and grand in the extreme. The success of those windows consisted in this, that their designers were, first of all, consummate artists themselves, and then that they had the genius and wit to seize the true and complete idea of the materials they had to work with. Theirs was the last blaze of that fine art for many a long year. Their successors adopted a new system by painting upon glass with enamel colours. The result was the rapid decline of the art. They would paint. The art of glass, therefore, was no more. Such was the fate of glass-painting south of the Alps. In the north, much the same result occurred. Religious and political troubles, far and wide, confirmed it. But here and there, and more particularly in Holland and Flanders, the old vigour of the art was revived. But the taste of the times was coarse, and the idea of art was too realistic to be attained in glass, without straining it beyond its proper functions. Some grand effects were, however, produced by combining the inlaid system of the best times with the enamel-painting of the worst. The inferior artists revelled, as usual, in violent effects. The public taste of their day was low, and was growing lower. There was no demand for good art, so there was no supply. And so the art dwindled away, till it fell, as I described at the beginning of this address, into the hands of the plumbers.

By this very sketchy review of the history of the art, from its earliest day to our own, and by our own personal observation of the works which remain of the various periods and styles, by the rarity of success and the frequency of failure, we must be impressed that there are somewhere, if we could but find them, some as certain principles for the foundation of all that is good in this as in any other of the fine arts; and that, for any hope of its successful revival, the first thing for us to do is to master those principles; and, further than that, to clear from our minds those obstacles which the very knowledge we possess of other arts may cast in the way of our comprehension and success in this.

I think that these principles are perfectly clear. The subject appears naturally to divide itself thus: 1, the treatment of ornamentation; 2, the treatment of pictorial composition. Of the first I will only say that it has met with too great indifference at the hand of modern glass-painters in general. Ornamentation is capable of taking a high position in the scale of art. The abstract beauty of form which is its very essence is comprehensible only to the most refined and intuitively artistic minds. It is a subject for glass-painters especially, and worthy of the talent and the labour they can expend upon it. I hope they will do so. It involves quite as much the improvement of the material of glass and its variety (which we are all desiring) as its treatment.

To go, then, without further delay, to the second part of the subject, it is evident that the greatest difficulty lies in the treatment of pictures in glass. You have seen, in the slight sketch of the art, how, as the other arts advanced, the glass-painter was tempted to push his also forward, not perhaps so much for any ambition to rival them, as that, his eyes having become habituated to a more artificial and academic system, he followed onward with the stream of his contemporaries. But he found at last, with many other reformers, that advance is not always synonymous with improvement. In his time perspective had become a science. Theories of composition, of the balance of lines, of the balance of colour, were taught as axioms of art. Pictures were no more suggestions or reminiscences, but actual representations, with all the natural effects of sun and shadow, night and day. And why was not all this to be effected on glass as well as on canvas or a wall? The glass-painter seems to have gone on asking himself this question; and now in our time people are asking it again. They are demanding pictures for their windows, family legends and local traditions for their halls, sacred subjects for their churches. How is the modern glass-painter to proceed? He certainly stands on the 'vantage-ground of experience. The successes and failures of past days are all before him. He has, with few exceptions, the whole array of materials for equal success: he has himself only to blame for equal failures. His difficulties are the difficulties of abundance rather than poverty. Style after style is open to his choice. Science is at his bidding. Galleries and museums are open to him everywhere. And the skill of the modern artisan sets him at ease about matters of technicality.

But it is just in all this that his trouble lies. He is impelled by all around him to the idea of advance. The notion of accepting the principles of a less educated age is to him a notion of retrogression. And there are other rocks than these also for him to wreck upon. There is the pre-occupation of people, in all the absorbing objects of this busy age, which unfits them for the quiet atmosphere of art, and greatly disqualifies their judgment. Then there is the unsettled state of architectural taste, which keeps all the arts associated with it in the same unhappy condition. Then there is that most fatal commercial element to contend with—to which, indeed, be all honour and respect paid within the broad limits of its proper action for individual and national enterprise and wealth—not when it invades the realm of the arts and presses one of the finest of them, as it does now glass-painting, into its service: no loose stone in a foundation, no poison in the food, no worm in the bud, could be an element of more certain ruin than it.

I know that here I touch on a very delicate subject. If I give offence I regret it, but there are occasions when plain opinion and plain truth must be stated, and this is one of them. I know that the artist must live by his art. I know, too, that it will be replied to my objection that the artist is under great obligation to the man of commercial energy for giving him the means of constant employment. So far so good—we are quite agreed so far. The evil is not here. The evil does not lie in the man of commerce supplying the artist with the means of constant

* By Mr. T. Gambier Parry. See p. 506, *ante*.

employment, but in the simple reversing of those words, that it is the artist who is pressed to supply the commercial man with the constant employment of his means. That is the evil, and a serious one. The very energy of the employer is the ruin of the employed. His talents are over-pressed—the fertility of his invention over-tasked. Orders pour in,—customers become impatient,—work must be completed, or, in its commercial sense, "turned out," in a specified time. The result is repetition, inferiority, and routine. But a still worse state of the case is this, and a common one, that the contract price keeps down the quality of the work—and quality is a matter of time, and time is money;—and thus a man's genius and high feeling are fettered and crushed because one breath more, one step further would not pay. The rich stream must be diluted down to the necessities of trade. Genius is become an article of commerce, to be sold by the pound, or to be measured at so much per foot. I assert that this is utter degradation of art. No art can live long in such an atmosphere; nor, certainly, could it rise above the most utter mediocrity. Thus far, indeed, it might rise, and for such a purpose the lower powers of art are not improperly applied. There are very many things, objects of universal use and trade, of which the value is very legitimately enhanced by a certain amount of artistic excellence. For such purpose let such a system prevail; for carpets, curtains, silks, and ribbons, tables, embroidery, earthenware, clocks, and ten thousand other things, in which dealers must deal, and which manufacturers must supply. The more they civilize and cheapen their wares the better. But there are occasions also here where a rather higher character of art is sometimes applied; as, for instance, in the painting of the finest porcelain. But I never heard of even that being degraded as our glass is. I never yet heard of a Sèvres vase, or a Dresden group, or Chelsea bowl, being sold by the measure of their surfaces, or by any other test of value but that of the excellence to which the artist, by all the powers he possessed, could press, to the very utmost of his perfection, the work of his hands. But the glass-painter stands on a higher level of art than he does. I know that the glass-painter must live by the work of his hands, and that they are but the fruit of his genius. The greatest men before him have done the same. The greatest architects have built for money, the greatest sculptors have modelled, the greatest painters have painted for money; but where was ever one such as they found who would yield for one moment to the bondage of the money for which they worked, or who would not, with poor old Palissy, have rather burnt the last leg of his last chair, and the last rail of his garden fence, than bear to fail in the full excellence of his work? If glass-painting in our day is to be submitted to such pressure as would have crushed the genius of a Raffaelle, it has small chance of vitality, and none of perfection.

But I must not be misunderstood. I desire, by no means, to pass a sweeping censure against the combination of the commercial man and the artist. Our whole social state is changed since the days of those peaceful contemplative poets of art who began their work with prayer, and mingled their colours with devotion, making religion as much a medium of art as art a medium of religion—men who worked the live-long day, refreshing their spirits and their eyes on the tranquil and lovely scenery of Umbria.

But do you reply,—"Yes, but those men often undertook great works on contract, and at a fixed price, and fixed time too"? Yes, they did; but who made the contract, who fixed the time? Not any commercial partner who had to make money out of the artist's brains. No; for no art can reach excellence,—the complement of a man's full powers can never be attained,—but in the freedom of undisturbed thought. If there is any vital element in art, it is that which is akin to poetry. It is a strange mixture in itself of delicacy and power,—qualities which in the execution of its work maintain and modulate each other. Delicacy would otherwise degenerate to weakness, and power swell into vulgarity. Art cannot live as a slave to commerce. When Perugino grew avaricious, he prostituted his art. It was lucky for the arts, and for his reputation, that in his younger days he had said his prayers. In those days he had acquired a power of refinement and expression of the most exalted character, for which all after-ages have venerated his memory. He had been a poet—he had indeed been a poet; but when his studio was lowered to a manufactory the volume of his glory closed.

I must repeat most explicitly that I by no means object to the combination of the man of business and the artist in an establishment for glass-painting. On the contrary, I think it would be one of the greatest service. I only demand that the two men should be in their proper places. I demand that their workshops—yes, call it boldly by its proper name, for in the highest days of art it always was the "bottega"—should be rather on the more dignified model of a school or a studio than that of a place of trade. I know most happily that there are such existing. There are very many details of such a "bottega," in which a man of business habits would be a perfect second right hand to the artist. There are orders of a common kind as well as of a higher, which must be supplied from such an establishment. There are works of ornamental art, which, when once well designed, may be many and many a time repeated, such as diapers, quarries, borders, geometrical work, and so on, in the various styles of architectural composition; for a really good thing had better be ofttimes repeated, than poor ones multiplied. I would even say that the repetition of a higher class of pictorial compositions is by no means to be decried, when the means at hand for purchase are limited. A good copy of a good work is more honourable than the perpetration of a bad original. The one thing I demand in such a partnership is, that the artist should be king of the establishment. There is plenty of work for both. Such a "firm" (I call it so because there must be some capital invested) should be like a body corporate, with its right hand and its left. I demand that the right hand should be the artist's — every finger of it his. It shall be for him to say that such a work shall be undertaken, and, with wisdom and honesty (not always practised now), that such another shall be declined. I beg you for a moment to look at the opposite picture, and to listen for a moment to such a by no means impossible nor improbable conversation as this. Head partner, managing man of the "concern" enters: "Well, John, how do you get on? You must push along a bit. We have got that order for the Last Judgment, for the east window of blank Church; and Hannibal crossing the Alps, for the Duke of Bareacres's staircase. You must manage to work off Honolulu Cathedral by next month, for the other big window is promised for Australia before Christmas, and the ship sails in about a couple of months."

I ask you to conceive the utter state of prostration with which the artist partner flings himself into his arm-chair, poor fellow! if head partner allows him one; and to realise to yourself the utter prostitution of art submitted to such terms. I believe the scene to be by no means exaggerated, but to be only, in other words, of most possible occurrence. If art is to be a plaything, only let it be honestly sold in toy-shops. Let us have no more hypocrisy about it, no pharisaical nonsense about any height in its aim, any beauty in its motive, any divine gift in its genius. But if it be a noble thing, if these qualities and objects be really its own, let it be emancipated to the utmost possible to us weak mortals, from worldly pressure. Let the artist be at his own command,—at liberty to say yes or no; to live in and by the harmonious assistance of his invaluable commercial friend, but to fix his own work, his own time, his own price; to follow his glorious work in quietude, in honour to his art, in honour to his patrons, and in honour to himself. Commerce and art thus wedded together would be like body and soul to each other. Only let the right hand keep the keys (*i. e.*, the power to ordain and to dispense), and the left hand keep the accounts.

It would be a rare case to meet with so perfect a little body corporate as this. There would be no fear for its issue; and, happily, we know of some founded nearly on this ideal. But, alas! for human weakness, it too often happens that the partner in poetry, though he knows he is overworked, cannot bring himself to say "no" to the glittering offer of a patron. Partner in business decidedly hopes he will not; and so the spirit too often succumbs to the infirmities of the flesh!

If there be one greater error than another that an artist can commit, it is in the transgression of the nature of his materials. The more evident, the more distinct, that nature is, the greater is his sin. Now, if there be any material at his disposal of which the qualities and resources are more clearly marked than any other, it certainly is glass. If in oil colour, they are those of depth and power; if of water colour, delicacy; if of fresco, sobriety; of glass, they are pre-eminently those of light.

I by no means infer from this, what I might be mistaken to mean, a garish, gaudy use of the raw material. But I certainly do mean that the degradation of so beautiful a material as glass to the condition of cardboard, as is done too often by the Germans, or into oiled calico as by the Italians, or into a very bad style of whity-brown paper, as is frequently done by the English and French, is simply an *abnegation of the art in glass*. As I said before, glass is a thing of light and colour, which calico, cardboard, and brown paper certainly are not.

The abuse, as we have seen, arose at the time (the fifteenth century) when glass was manufactured thinner and more clear. The painters now black it to hide its poverty. It is wanted for all varieties of effect; and, rightly used, it can be gorgeous without being gaudy, and solemn without being dull. The first step to its improvement for art purposes must be the work of the manufacturer. I do not pretend to be versed in the niceties of its manufacture; but it appears to me that the ruby, the green, and the white would be better made thick, the blues more grey, the white very various in hues, and a more refractive and a rich translucent rather than purely transparent glass, made for them all.

The next step, the artist's, is not so easy to describe. If the right kind of glass could be got there would be little need of veiling it at all, to enrich its poverty or to tone its garishness, beyond the broad lines of the drawing, the lightest possible indication of shadow, and so on. Such, indeed, I feel, should be the law of the glass-painter. But as in severer matters, the best of laws are sometimes more honoured in their breach than in their observance, so it is with glass. And here it is, I think, that might come in the right use of enamel colours. Their exclusive use has two great objections,—one the costliness of their production in the perfection of the little cabinet examples, from Nuremburg and Munich; the other, their weak effect when used on any considerable scale, and from the number of bakings required for the different colours, a process often attended with fracture of the glass. But the pot-metals, toned with discreet moderation, as they have done especially in some of the Dutch and Flemish examples, would have at once a mellow and a rich effect—a good deal preferable to the choice between brown paper and blacking.

But now, having progressed so far, comes the great question, How is he to treat his pictures? There can be no real difficulty in this, but in the practice of humility and self-denial. The first thing for the artist under such circumstances is to make up his mind that he is, in truth and in deed, a "glass-painter." If only he is quite sure of that, half his difficulties are over.

Now let us for a moment compare the characteristics of a picture on canvas, and a picture on glass; and the conclusion will be obvious. In the first place, then, the element of form is common to them both, and equally within their reach. Then chiaroscuro, the whole law of which runs in the simple sequence of "high light, half tint, shade, reflected light, and cast shade," is also equally within the reach of both, for glass can be blackened as black as night, and high lights filled out as bright as the sun. Then "colour;"—that, too, is common to them both. Where, then, is the difference? I answer, Mainly in this, that, although all things may be possible, all things are not expedient.

But now look at the opposite view of the case. Take two subjects only, those of "roundness," and "atmospheric perspective." The way in which our artist produces the effect of roundness is by modification of colour, and by loss of outline. These are amongst the most powerful means in the hand of a painter, to produce to the eyes of others the effects of nature, and among the most favourite resources of his art.

These two, his primary essentials, are simply and entirely impossible to the glass-painter, because his outlines must be marked by lines of lead, and his colours can only be tempered by the coarse expedients of mere light and shade, or, at best, by enamels, which must injure the brilliancy, and can only darken, without in truth modulating, his colours.

There can be no modulation of colour in glass. I must not be mistaken. Of course glass may be ground into semi-opaque white and painted on in many ways with water and oil colours modulated as you please; but that is not glass painting in what is (without any quibble about words)

really meant by it. It can also be effected by enamels; but that is glass enamelling, not glass painting, and very objectionable for the reasons (only with the favourable exceptions) I have mentioned. So then truly there can be no modulation of colours on glass. How can the painter get the grey between the light and the purpled shadow of a ruby-coloured drapery? How can he get the thousand and one tints of sky and earth into its reflected light? How can he soften off its edge?

Then take the effects of "atmospheric perspective." These are mainly producible by the same processes. Things in nature are cleared from each other, not by any means so much by their colours as by the air between them. There is nothing more delicate than this in all painting. But these are unattainable by the glass-painter. He can only approach them by the ingenious use of forms, and by suggesting (however untruly in a realistic point of view) the idea of proximity by strong colours, and distance by the more delicate.

In spite of all these limitations to which he is subjected, I do not feel that his art is lowered, for art does not depend on perfection of representation. Such perfection would at once be the loss of all its poetry. I believe that each art has its distinctive genius and capabilities; that there is a something which each can do the best; and that, failing that, the fault lies rather with the artist than with his materials.

Michelangelo would be as great in terra cotta as in the finest marble. What, then, is the glass-painter to do? I am confident that the secret of his success lies in this, that his designs must be made entirely with reference to the powers and limits of his art,—that the designs of Michelangelo himself would be utter failures unless made unreservedly upon such a model. An idea is prevalent that copies may be made from great old pictures, or that designs may be obtained with great advantage from the leading artists of the day. But I am confident that it would be an injury rather than an advantage that artists, however great in figures, landscape, or genre, should be so employed unless they do it with a thorough knowledge of the peculiar qualities and limitations of what they work for; that in their pictures they may revel in the poetry of shadow, but that in glass they must design for the effects of light; that their canvas may be a broad, open space to work for, but that glass (even for the common purpose of its safety) must be broken up into small pieces; that every form must be definite from the mechanism by which those pieces are joined; and that the light, even of the most mellow glass, is too great for the eye to bear it long; so that his composition should be broad, clear, sculpturesque, rather than pictorial, but beautiful, delicate, or powerful, to the utmost of his art. What, then, unreservedly are these powers and limitations of the glass-painter? His powers? He has the whole beauty of the rainbow and the whole power of the sun at his disposal. What are his limitations? They resolve themselves into two, the impossibility of colour-gradation and the rigid obligation of severity of outline in the use of his leads. The result, therefore, is that his works are characterized by a certain flatness of effect, more in the character of a bas-relief than the atmosphere of a picture. This peculiarity is by no means peculiar to the essentially Gothic art of glass-painting. At a period of Classic art in Greece, perhaps unequalled by any other for refined purity of design, wall-painting was constantly executed in this manner. Figures, and even groups of figures, were thus painted with no more than sometimes a mere faint line to stand upon, and without any accessories of background. It is impossible to imagine the science of design put to a severer trial, or a more perfect and pure ideal of painting in connexion with architecture. And I adjure him not to disguise this essential peculiarity, and so to falsify his art. It would be as unreasonable for a composer to complain that his instrument had not the power of an orchestra, or a sculptor that his marble was debarred from the accessories possible to canvas, as for a glass-painter to complain of his glass. But, above all things, let him remember this, that, before he can be an artist in glass, he must first be in verity an *artist*.

In respect to the variety of styles, the Classic, Gothic, Renaissance, and Modern, which is most intimately connected with the subject of glass-painting, there can be no doubt of this, that to reduce everything to the mere dead level of modernism would be to deprive the world of that invaluable means for expressing the many phases of beauty which depend entirely upon the characteristics of particular styles,—that they are, in fact, the expression of the widest range of human feeling; for, excepting literature, all that remains to earth of the hearts and souls of the best men is in their arts.

The objection is made, "But why copy them? Why bind down your wider knowledge to the limits of their comparative imperfections?" I can only say, in reply, Who in his senses would ever, or what man with a spark of genius ever could, advocate such a course? The objection is one of those bugbears which gentlemen of certain opinions are constantly raising—gentlemen whose judgment seems to be a good deal affected by temper and a little by prejudice.

The imperfections of old art are most patent and followed only by those who know, and are capable of, no better. But I hold that there is a latent beauty beneath the crust of those imperfections that you have failed to perceive; that there are there more than the vigour of strong feeling and the earnestness of purpose, which even you in some sort allow; but that there is a perfect sense of the relation of one art to another, a most genuine poetic sense in their employment, a modesty in self, a keen perception of the fitness of materials, and of the appropriateness of the character of their design to all the qualities of them, to be found as the guiding principles in those works, which it is impossible to overrate—guiding principles, which, if some modern had equally perceived, they would have succeeded where now they have failed.

I grieve at the discredit that has been brought upon old art by the atrocities committed by incompetent imitators. To them the mere archaisms and exaggerations of expression have been the low ideal of those arts. They have missed the latent beauty, and made bad copies of the crust. Those artists of old days felt of beauty as we do, though they had no academical rules for its display: they felt all the poetry of human passion as we do, though they had no axioms for its embodiment in art; and, under their exceeding disadvantages, with no rules to guide, no experience of the past to enlighten them, it is *less* their fault that they expressed their strong feelings faultily, than it is ours that we are so blind—eye-blind and heart-blind—to perceive them. Neither do I perceive at all that the modified flatness of representation necessary to glass deprives it of the means of aiming at and of obtaining a very high order of art. For what is high art? Surely the greatest art is that which expresses the greatest idea; and, as I believe that this great result overrides all technicalities of material, I see no reason why its attainment is not as possible for the glass-painter as for them who find expression for the yearnings of a big heart in the other poor and weak resources of stone or marble, of metal or of paint. And I would that the glass-painter would lay such an ideal before him; that, even if it were possible, glass-painters could form themselves into a guild, and exclude those unworthy pretenders who do but poison public taste, and dishonour the credit of a noble profession. But such a happy result would be disallowed by the axioms of modern liberty, which sanctifies by its licence all things bad.

The only other hope for the elevation of this beautiful art lies in this,—that those who have power should refrain from its abuse; that in all the honourableness of self-discipline they should put quality before quantity; and then (pardon me for adding) work for the high aim in their art, rather than for high balances in their ledger.

With such sentiments, then, as these would I close this address to all the artists and amateurs interested in this beautiful art. Let the glass-painter do honour to his glass! Let there be no hesitation about it,—no wretched condescension to mislead those who gaze upon it. Let it be glass without mistake; parading nothing, pretending nothing; but honoured even in its weakness, and treated with justice, even to its defects. Why envy the qualities, or even the excellences of other arts?—or, why dread the genuine light of day, the open sun and passing cloud (which are as death and destruction to the oil-painter and the fresco-painter)?

Have you not gems to play with—a very flood of gems to toss about, and to let your thoughts revel in? Do you fear their gayness and vivacity? What if the diamond, ruby, and emerald have a fire which no art can equal, except yours alone? Have you not also the mellow richness of the jacinth, the softness of the chrysophsan, the tenderness of the pearl? If you fear them, leave them! If you use them, use them and glory in them! but use them within the limits of an educated sense. Treat them with that mingled modesty and confidence which have ever been and ever must be the characteristics of disciplined genius. You have entered the temple of the arts with the most precious jewels in your hands. Ignorance and self-conceit are sacrilege here. Sordid motives are sacrilege here.

It might have been well for the great men of former days to have played with their art—confident in their principles, but modest in themselves. But glass-painting is no easy and light matter. The mere material itself is so beautiful that the eyes of the vulgar are dazzled and deceived by it; but it needs the utmost tact in its management, and genius, and labour long and hard, for its success.

Let, then, no wilful, no untrained hand meddle with it—let no vain spirit of self-taught genius intrude upon it; for such a one who thus violates the sanctity of the art will cut the throat of all his hopes and reputation, as surely as the glass will cut his fingers.

THE SAVOY CHAPEL.

THE Queen has graciously taken upon herself the cost of restoring the ruined chapel, and Professor Smirke, R.A., has surveyed the ruins with reference to the probable cost. In 1843, her Majesty, as "Duchess of Lancaster," did the same thing. George III., according to a tablet still on the outside of the church, paid the cost of its repair in 1826 and 1830, as George I. had done in 1721. Unfortunately, however, all the Queen's horses and all the Queen's men cannot put Humpty-dumpty again as he was before; and the disaster should lead to increased carefulness in respect of other remnants of the past. Little remains but the walls. Most of the monuments are destroyed, including that of Dryden's "Vestal Virgin of the Skies," Anne Killigrew, "A Grace for beauty, and a Muse for wit." What has become of the Gawain Douglas brass we did not notice.

The history of the Savoy Palace is curious. The founder of it was Peter de Savoy, brother of Boniface, Archbishop of Canterbury, and uncle of Eleanor, Queen of Henry III. This Peter was knighted publicly in Westminster Abbey (1245) and was created Earl of Savoy and Richmond. Many vicissitudes happened to this building. It next became the property of the friars of Mountjoy, and then Eleanor purchased it again for her son Edmund, Earl of Lancaster, father of the earl who was beheaded for treason in the reign of Edward II. John of Gaunt married the daughter and heiress of the Duke of Lancaster, and he became tenant of the Savoy Palace. The battle of Poictiers (1356) resulted, we all know, in the defeat of King John of France. On the 24th of April, 1357, the Black Prince rode through London with King John of France, and the captive king lived in the palace, where the English king and the prince "went frequently to see him." King John returned to his country in hopes of making terms of peace; but, being unsuccessful, he returned to England, and died in the Savoy in 1364. The Savoy Palace next became an hospital in the time of Henry VII. In the reign of his successor there was an establishment of a master and four chaplains, and then the hospital was suppressed after a time. Of this institution all traces are swept away except the chapel which has just been destroyed by fire.

The chapel was built in 1505. The ceiling, which has been entirely destroyed, was the most striking feature of the interior. It was wholly of oak and pear-tree, and divided into 138 quatrefoil panels, each enriched with a carved ornament either of sacred or historical significance. The panels numbered twenty-three in the length of the chapel and six in its width. Ten of the ranges had each a shield in the centre presenting in high relief some feature or emblem of the passion and death of the Saviour, and all devised and arranged in a style of which there are many examples in sacred edifices of the fifteenth and sixteenth centuries. The panels throughout the rest of the ceiling contained bearings or badges indicating the various families from which the royal lineage was derived, and more particularly the alliances of the House of Lancaster, each panel being surrounded by a wreath richly blazoned and tinted with the livery colours of the different families. The various devices in the ceiling are minutely explained in a published work by Mr. Willement. The altar-piece (designed by

Sir Reginald Bray), and the large stained glass window surmounting it, have been entirely destroyed. "This window was glazed at the cost of the congregation, in honour of God, and in gratitude to our Queen Victoria."

Fuller, the church historian, was once lecturer at the chapel; and Cowley, the poet, was a candidate for the appointment. Wither, the poet, and William Hilton, the painter, were buried there.

In early times, a right of sanctuary was claimed for the Savoy. A letter to Lord Burleigh in 1581, as to an outbreak of rogues, says,—"The chief nurserie of all these evell people is the Savoy, and the brick kilnes near Islington."

THE PHILOLOGY OF ARCHITECTURAL TERMS.*

MR. PICTON, well known to most of our readers as an able and popular Liverpool architect, now appears in quite a new aspect,—that of a philologist. The papers in the volume of which we are about to speak were read mainly before the Literary and Philosophical Society of Liverpool, of which he is the president; and the chapter on the philology of architectural terms was read before the Liverpool Architectural and Archæological Society. The first are divided into two parts. In the first part Mr. Picton gives a general view of the grammatical forms of the Gothic language, and of the relations in which they stand both to what may be called the affiliated tongues of the Teutonic stock, on the one hand, and to the Sanskrit and classical languages on the other. In the second part he treats of the substance or vocabulary of the language.

In the outset, the author remarks that,—

"From the mere desultory acquisition of separate languages, Philology begins to assume the character of one of the exact sciences. The keen searching power of modern analysis, brought to bear on the mass of facts previously accumulated, has gradually elicited order out of chaos, has demonstrated the existence of fixed law where irregularity and caprice had been held as dominant, and has discovered relationships heretofore unconceived between the most distant races of mankind.

If Geology teaches us to read the history of our planet in its wondrous revolutions, and in the succession of organised beings previous to the advent of mankind, the Science of Language takes up, so to speak, the thread of the narrative where Geology ceases to inform; and, far beyond the first dawn of history, reflects a light, obtainable from no other source, on the earliest condition and the progress of the human race."

Of this we are persuaded, that geology will ere long shed a light on the science of language itself of which few have as yet any conception. The *progress* of peoples and of languages has already been traced *downwards* along the course of some of the great rivers of the East, flowing from Upper Asia eastwards; and now that the error as to the geological time of man's advent on the planet is being cleared away, still further discoveries, of a like nature, will probably be made; such, for example, as that involved in the fact that there is more analogy between some of the peoples and languages of Upper Asia and those of the Caucasus than between either and any intermediate region; a circumstance which seems to imply that at a period when the highlands of the sub-Himalayas, for example, and the Caucasus, were above the ocean, and the intermediate region below it, mankind already existed; and that it was thus also that the Caucasian type of man became afterwards so general in the western world. Something similar is also already known to have occurred in India, where various races, including the Aryans, were, as it were, intruded, between the highlanders of the sub-Himalayas and those of the southern highlands of India, the inhabitants of which highlands were therefore probably of more ancient origin than the lowlanders, in a national point of view. In the West, the question of the origin and relationships of Celtic highlanders thus becomes enhanced in interest; and the strange traditionary fascination which *continental* peoples, according to Bailey, have for *islands* begins to be accountable. Scandinavia is high ground compared with the general level of Russia and even of Europe: hence the antiquity and the ramifications in Europe of its peoples and its languages. And the geological period when the low levels of Europe and Asia were below water is not so very ancient, comparatively speaking, as may be supposed: indeed, during the glacial era itself, many low lands were strewed with boulders and *débris*, evidently dropped from glaciers, floating and melting in a wide ocean studded with islands; and, in Homer's time, it appears, there was a tradition that an ocean was known to have once spread northwards through Russia from the Mediterranean.

But our purpose was merely to make some use of Mr. Picton's chapter on the philology of architectural terms; and to a few gleanings in that respect we must now restrict ourselves.

In its present application the term *building* occupies æsthetically a lower position than *architecture*, the former meaning with us simple construction, whilst the latter is understood to indicate something in addition in the nature of design. Such was not the case originally. The words come down to us from different sources, and have in the course of their transmission completely changed their primitive signification.

The original word for building and construction in our Anglo-Saxon mother tongue is *timbrian*, which has its equivalent in every Teutonic dialect:—

Gothic,	timrjan
Swedish,	timbra.
Old High German,	zimbaron.
Modern German	zimmern.
Holl.,	timmeren.

This did not originally signify necessarily *wooden* construction, but was applied to every material indifferently. As, however, wood was the principal material employed by our ancestors for building during the Saxon period, timber and wood became in time synonymous terms.

To *build* originally meant to form, shape, fashion, design.

Anglo-Saxon,	Byldan.
Old High German,	Bildon.

In modern German it has retained this meaning exclusively, and is applied both to sculpture and painting. In our own tongue, from being applied to the ornamental portion of the wooden structures, it gradually extended itself to the general construction, and superseded the ancient *timbrian*.

The modern term *architecture*, which has sprung up since the revival of classical literature, and can hardly be traced farther back than the time of Milton, was originally applied to simple building. The Sanskrit root *tvach*, to cover, is found in one form or other in all the Aryan tongues.

Greek, τέκτων.
Latin, *tego*.
Old German, *dakjan*, whence *dach*, a roof, and *deck*, the covering of a ship.
Anglo-Saxon, *theccan*, to cover, whence *thatch*, a straw roof.

The Greek τέκτων was the carpenter who framed the roof, ἀρχιτέκτων was the chief of the workmen. The word is first used by Herodotus, but rather in the sense of engineer than of artistic designer. It is afterwards employed by Plato; and, along with Greek art, was borrowed by the Romans; from whom, principally through the treatise of Vitruvius, we have derived it, and brought it into general use with its modern acceptation.

The word *house*, in the sense of habitation, is identical in all the Teutonic and Norse tongues, varied slightly in form. A similar word exists in some of the Slavonian dialects. The radical is not found either in Greek or Sanskrit. It is impossible, therefore, to ascertain any leading idea in the root beyond its uniform meaning of a dwelling-place.

The *door* is still wider in its use. We trace it in the Sanskrit *dwara*, Greek θύρα, Latin *for-is*, Persian *der*, Slavonic *doer*, Hib. *dor*, Cymric *dor*, Old German *daur*, Anglo-Saxon *duru*, &c. This term also, like *house*, seems to be itself a root.

The original meaning of the term *wall* was an earthen mound, Latin *vallum*. The corresponding term in German is *maur*. Both are probably derived from the Latin, *vallum* and *murus*, the former not unlikely through the Cambrian *gwall*.

If the term *wall* is not indigenous we cannot expect to find the materials of which it is constructed of native growth.

Stone is a word found in all the Teutonic tongues. Its primitive signification is that of *rock*, the original root being found in the Sanskrit *s'tha*, indicating stability—the absence of motion. Its application to separate fragments is a secondary meaning of later date.

The word *brick* is not found in Anglo-Saxon, nor is it found in German, ancient or modern. It has been attempted by some etymologists to derive this word from *brechan*, Latin *frang-o*, Sanskrit *bhranj*, to break.

Mortar again is not an indigenous term. There is no equivalent for it in Anglo-Saxon, and in German the Latin name has had to be borrowed, slightly changed in form. *Mortarium* originally meant a vessel in which ingredients were bruised, as we now employ the term in one sense. It was then transferred to the large hole or basin in which lime and sand were mixed. So it is employed by Vitruvius. By a natural metonymy, the word came to mean the materials bruised and mixed up in the *mortarium*, and is so also employed by Vitruvius. The term has continued in use down to the present time, passing into the French *mortier*, German *mörtel*, and English *mortar*.

The term *cement* has undergone a singular transformation from its original meaning. *Cæmentum*, more commonly used in the plural *cæmenta*, meant originally in Latin rubble stone as it came from the quarry.

From rubble stone, *cæmentum* was applied to marble chippings, which were ground up and mixed with lime and sand for plastering. During the Middle Ages *cæmentare* meant to build; and *cæmentarius* was the name of a walling mason. But as most of the thick walls in the castle-building period were cored with rubble grouting, the *cæmentum* gradually came to mean the plastic material which formed the matrix. The word now has come to mean in general parlance any plastic substance which unites two hard bodies. As a building term it is almost exclusively confined to the so-called Roman cement, which owes its hydraulic properties to the combination of lime with iron, silica, and alumina.

Lime is another name for building material which has equally departed from its original meaning, but in an opposite direction. The root is indigenous in all the Teutonic tongues, and is found in the Latin *Lim-us*. Its primitive meaning is clay, mud, slime, anything sticky or adhesive. We have retained it in that sense in the word *bird-lime*. In the other languages it has never changed its meaning, but in English it has come to mean the solid mineral which is calcined for mortar.

In Gothic *window* is called *auga-daur*, eye-door. In old Norse it is *glær-glugg*, light-hole. In old German it is *tag loch*, which has the same signification. In old Saxon it is *eagh-thyrl*, eye-hole: *wind-oga* the eye or hole for the wind, has been softened into the modern *window*.

Sill—door-sill, window-sill. This is an indigenous term, Anglo-Saxon *syl*, German *saul*, French *seueil*, which is doubtless akin with the Latin *sol-um*, meaning the plate on the ground.

Another name for a door-sill, *threshold*, was probably first applied to the log placed across the barn door to prevent the grain and straw from being driven outside. It does not exist in the kindred tongues.

Lintel is of French derivation; Latin *limen*, *limentellum*. It is not found in German or Norse.

Roof is the Anglo-Saxon *hrof* from *hræfnan* to uphold, support.

The term *gable* originally meant anything in a furcated form, and was applied in Anglo-Saxon, *gaflas*, both to the main rafters of a building and to the *gallows*, which is merely a modification of the same word. It is found in Gothic *gibla*, Swedish *gaffwel*, German *gibel*, in the same sense as our *gable*.

The *rafters* are the supporters, Anglo-Saxon *ræfter*, from *ræfnian*, to bear.

Tile is of comparatively late introduction, though found in Anglo-Saxon. It is derived from Latin *tegula*, either through German *tigel* or French *tuile*.

Slate as a covering is not found in Anglo-Saxon, but the word is indigenous, being derived from *slitan*, German *schlitzen*, to rend asunder, to split. Its earliest appearance is about the time of Wickliffe, the middle of the fourteenth century.

The *ridge* sufficiently explains itself.

Chimney is an exotic in all modern languages, neither the thing nor the word having been known until the twelfth century. The word is derived through the French *cheminée*, Italian *camino*, Latin *caminus*, from the Greek **κάμινος**, a furnace, which of necessity had a pipe or flue connected with it.

One of the first improvements in the Anglo-Saxon house was the construction of an upper chamber with a boarded floor. This seems to have been an indigenous improvement, as the terms employed are partly of native origin. The chamber was called the *solere*, and in the Middle Ages the *solar* or *soller*. The term seems to apply to the separate floor, from the old German *sulen*, Gothic *suljan*, to stand upon. The apart-

* "Philological Papers; comprising Notes on the Ancient Gothic Language; with a Chapter on the Philology of Architectural Terms." By J. A. Picton, F.S.A. Liverpool: printed, for private distribution only, by T. Brakell, Cook-street. 1864.

ment under the solere was called the *cellar*, German *keller*, French *cellier*, and was used for keeping provisions and stores, entering from the outside. The derivation may be from old German *kele*, a hollow place, but has more probably descended through the French from the Latin *cella*, a storeroom or granary. There is some confusion in the use of these terms owing to their similarity in sound.

The *solar* or upper room led to the necessity for stairs. This is a pure Anglo-Saxon word, originally *stægers*, from *stigan*, to ascend, mount upwards. A boarded floor required *joists* to support it. The derivation of this word is obscure. The most plausible is that from the old French word *adjouster*, to place in order, adjust.

Breast-summer or bressummer is an application of the French *sommier* or main beam, supporting the breast or front of a building.

The word *girder* is now used for the main timbers of a floor, but in its origin it rather meant a tie, from Anglo-Saxon *gyrdan*, to gird, bind round.

Most of our modern terms of carpentry, such as tie-beam, rafter, ridge, strut, king and queen post, valley, wall-plate, pole-plate, sufficiently explain themselves.

The words *carpenter*, *carpentry*, are derived from the Latin, through the French.

Most of our terms used in joinery are derived from the French, who preceded this country in the art.

Mr. Picton's philological disquisitions are both clever and interesting, although, no doubt, other philologists will be quite ready to pick holes in them.

It was in student-days when we first made the acquaintance of Mr. Picton, now some years ago,—the days of poor Loudon and the *Architectural Magazine*. From that time to this he has been steadily building up reputation and fortune, and quietly earning the increasing respect of his fellow-citizens. Liverpool holds Mr. Picton in high esteem, and has good reason for doing so. We avail ourselves gladly of the present opportunity to point, with much regard, to an honourable and successful career.

THE SAD STORY OF THE "GREAT EASTERN" STEAM-SHIP.

THE *Great Eastern* steam-ship, which but four years since was the wonder of the day, was sold in February last at public auction for 25,000*l.*, scarcely one-third of its value as old materials.

This is another instance, added to many, of great expectations disappointed, of genius wasted, and of enterprise thwarted. It is the last act in the history of one of our first limited liability companies, and I hope you will agree with me that it may be useful to record some of the principal facts which appear to have led to this lamentable termination of an enterprise which promised the greatest results.

This ship originally belonged to the Eastern Steam Navigation Company,—a company established to carry the Indian and China mails by the long sea route, the political advantages of which the directors hoped would have induced the Government to give them a mail contract on favourable terms.

In this they were disappointed: the influence of the Peninsular and Oriental Company was too strong for them; but they were not disheartened, and immediately turned their attention to the consideration of the question whether ships could be built and profitably worked to carry mails and passengers as quickly and more cheaply than by the overland route, without the aid of a Government subsidy. The result of their inquiries led to the construction of the *Great Eastern*, the particulars of which were first announced in a report presented to an extraordinary general meeting of the company, held on the 12th of July, 1852.

In August, 1853, full particulars of the proposed ship were laid before the proprietors; by March, 1854, the contracts for the hull and machinery were taken; and, in July, Mr. Brunel presented his first report on the progress of the works.

In February, 1855, the directors submitted a report containing an elaborate and very interesting account of the progress of the ship to that time. In 1857 all the available capital of the company had been expended; and in February, 1858, after the launch, the necessity for raising further funds to complete the ship was announced; and here arose the first of a series of blunders, which have terminated in the sale of the ship by public auction.

Instead of trying the ship as she was launched with the machinery, coals, ballast, and rigging necessary to navigate her, so as to ascertain what might be her deficiencies, and how to remedy them, very little short of 100,000*l.* was spent before she was tried, in the general outfit of the ship, and in fittings and decorations of the most expensive character, delaying thereby for many months her trial trip, and very much increasing the loss caused by the accident which subsequently befel her.

It was this unwise expenditure which first placed the company in serious pecuniary difficulties, and led to the conversion of the Eastern Steam-ship Company into the "Great Ship Company, Limited."

In November, 1858, the prospectus of the new company was issued. The capital which was to buy the ship, to cover all existing liabilities, and to provide ample funds to work her, was 330,000*l.*

In the autumn of 1859 she went to sea, and the first accident occurred off Hastings; and from this time to the day of her sale almost every casualty which could befall a ship occurred to her, without causing any material injury to her hull or machinery. The bursting of a boiler of the size and strength of those in this ship would have destroyed any other ship afloat; but she pursued her way to Portland after the accident, without even stopping for a moment.

She rode out a gale in Holyhead Harbour, proving the utility of her double motive power. She encountered a hurricane in the Atlantic, which disabled her rudder and damaged her paddles, and left her for three or four days rolling about in the trough of a heavy sea.

She ran upon a rock at New York, and broke her bottom plates for a length of 80 feet, which were repaired while afloat, and without going into dock; and she came home safely.

During this period directors of known position gradually withdrew from the board, till the company was left to the care of the four late directors, who, after the fall of the ship financially, finish their career by calling a special meeting of shareholders, to inform them that they have no plan to propose and no policy to pursue to improve the position of the company; and that, unless 30,000*l.* could be raised, the ship must be sold by auction in fourteen days.

The shareholders try to resist this lamentable result, but ineffectually; and, upon inquiry, they find that the directors, anxious apparently to avoid the odium of being the parties to carry the company through the Bankruptcy Court, proceedings against the company having been already commenced, have sold their shares, and left the ship in the hands of the trustees of the mortgagees for sale.

This sale has since taken place, and 25,000*l.* is all that has been realised for the expenditure of 1,000,000*l.* of capital.

I propose, then, having given this brief account of the present insolvent position of the Great Ship Company, to inquire whether it can be attributed to the operation of the new law of limited liability making directors careless and inattentive to their duties; or whether it be due to mismanagement arising from incapacity and ignorance; or whether it be the result of a policy calculated to satisfy the unthinking public, the shareholders, and the creditors, that the difficulties inherent to the management of this great and novel enterprise have necessarily led to so lamentable a result.

The result, produced by whatever cause, may be thus stated:—1,000,000*l.* has been spent, and nothing remains for the shareholders, original or preferential, or for the bondholders; for the 25,000*l.* realised at public sale for the ship will be hardly sufficient to pay the preference creditors and the law expenses. Everything available, including office furniture, was sold before the directors disqualified themselves, though they did not forget to send in claims for half-year's fees in arrear; and all that is left besides the balance of the 25,000*l.*, after paying expenses and preference claims, is 15*l.*, which is in the hands of the official liquidator.

The ship has been bought for this ridiculously small sum by a new company, of which three of the late directors of the Great Ship Company are the principal shareholders and directors.

Surely this is a state of things which deserves, nay demands, inquiry, especially just now, when limited liability companies are increasing in number so rapidly; for if the directors of a limited company can with impunity waste all the property intrusted to their care, and leave a large amount of debt, without anything whatever to meet it, and without any legal responsibility or accountability, some new provisions are most assuredly required.

No private trader in times past could waste his creditors' property, without incurring any responsibility; and it appears impossible that when the accounts of the company are rendered to the Court of Chancery, some persons can escape severe censure. Let us, then, endeavour to trace the progress of the mismanagement of this unfortunate company.

The ship was designed and built for the Eastern or Indian trade. Every appliance and fitting was designed for a long voyage, the capacity for cargo, the space allotted for fuel, the smallness of her power compared with her tonnage, her size, her height between decks, the special attention paid to ventilation, were all considered, and provided for a long and mainly tropical voyage. But the directors into whose hands she fell, either ignorant of the suitability of the ship for what she was intended, or wedded to other views, decided upon placing her on short voyages in northern latitudes, where the arrangements applicable to tropical climates became a source of discomfort, where her capacity for fuel was unnecessary, where her splendid accommodation for first and second class passengers was useless, where her speed was not so superior to every rival as to give her any practical advantage, and where indeed every special peculiarity in her construction, size, power, and economy of management became rather sources of loss than of advantage.

I will assume that when the directors first determined to divert her from her original destination, they believed it would be beneficial to the shareholders; but on what principle of profit they kept her on the American line, when each of the eleven voyages produced a large loss, exclusive of the heavy staff expenses at Liverpool and New York, is quite unaccountable.

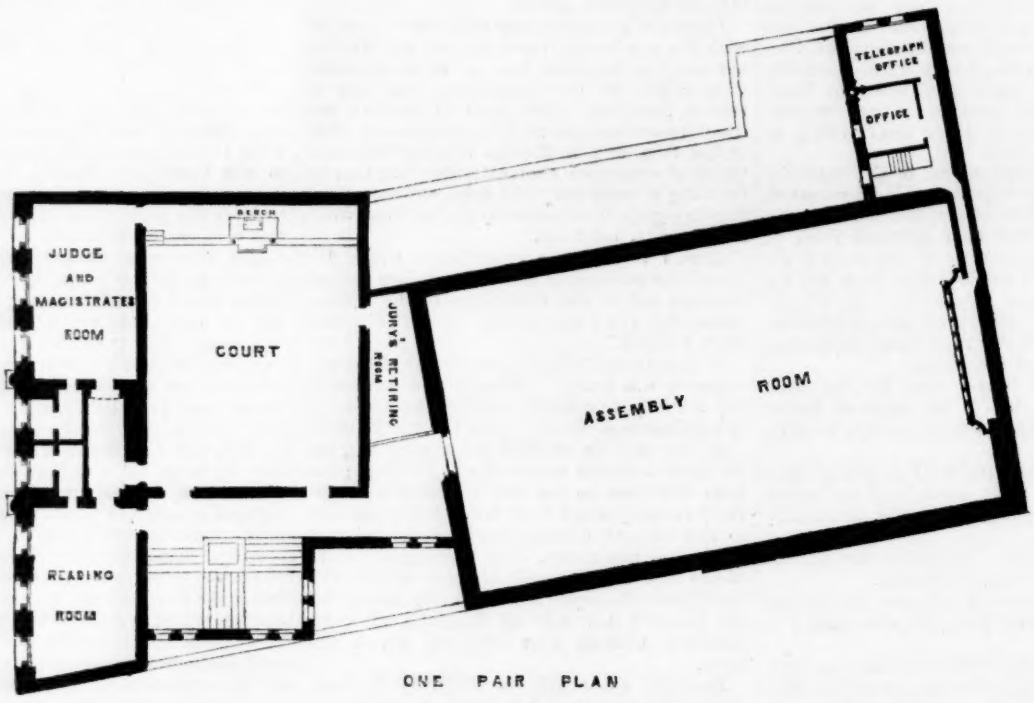
This system of losing by every voyage was persisted in by the directors, notwithstanding continual warnings, and the actual results published in their annual balance-sheets, till we arrive at the special meeting held on the 2nd October, 1863, when the shareholders were told by the chairman that all their money was spent, that they had no more credit, that their borrowing powers were exhausted, and that the ship would be sold by the sheriff unless 30,000*l.* were raised in fourteen days.

This meeting was adjourned, in opposition to the wishes of the directors, in order to give the shareholders time, little though it was, to satisfy themselves as to the exact financial state of the company, and a committee was appointed to ascertain whether any means could be devised to relieve the company from its difficulties; but before the special committee could read their report to the adjourned meeting, held on Monday, the 15th of October, the chairman announced, that on the previous Saturday he had called a meeting of bondholders, and that they had, in conformity with the powers conferred upon them in the mortgage deed, instructed the trustees who held the mortgage to sell the ship by auction, and that the ship was no longer in the possession of the shareholders, so that whatever they might resolve at the meeting would be of no avail. This announcement, accompanied, as it was, by most damaging statements, completely neutralized any efforts the committee could make to revive the company; and it was found impossible, in the face of the insolvent condition in which the chairman represented it to be, to raise funds to liquidate the pressing claims, and to repair and refit the ship. She was therefore left in the hands of the bondholders, and the winding up of the company in court was proceeded with.

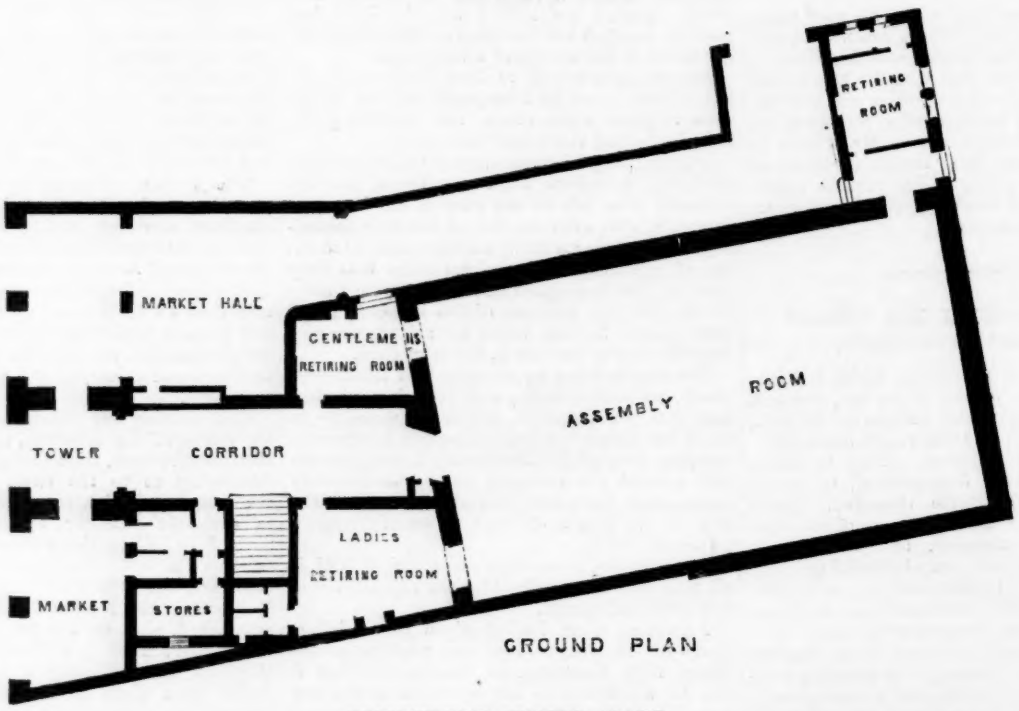
The trustees to the bondholders, in whose hands the ship was placed from this date, are three in number. Mr. Jones, of Oswestry, generally supposed to represent the late chairman; Mr. Brereton, the consulting engineer to the company, and apparently representing the general body of bondholders; and Mr. Stevenson, of the Great Western Railway, the colleague in that company of another great ship director, Mr. Gooch.

These gentlemen had the following propositions submitted to them before the ship was sold by auction, in February.

The first, immediately after she was bought in at public sale, was to the effect that they should give the ship in offer to certain parties for twenty-one days, at 130,000*l.*, the reserved price



ONE PAIR PLAN



GROUND PLAN

CONGLETON TOWN HALL.

at the sale, when there was but one bid for 50,000*l*. At that time there would have been no difficulty in forming a company with capital, had a little time been given to make the necessary arrangements. This was refused without any other reason being assigned than that it precluded the trustees accepting any better offer during the three weeks.

The next offer was made a month later by bondholders attending the meeting called by the trustees, who offered 120,000*l*., subject to an option for seven days. This was refused, when the original offer of 130,000*l*., subject to the same condition as before, was renewed.

The parties to the offer of 130,000*l*. stated that their reason for requiring the option of purchase for three weeks was that, after all the late directors had said about the ship, and the accidents which had befallen her, it was necessary before they embarked the large sum to purchase her, and to complete the repairs admitted to be indispensable before she could go an Indian voyage, that competent engineering opinions should be obtained respecting her.

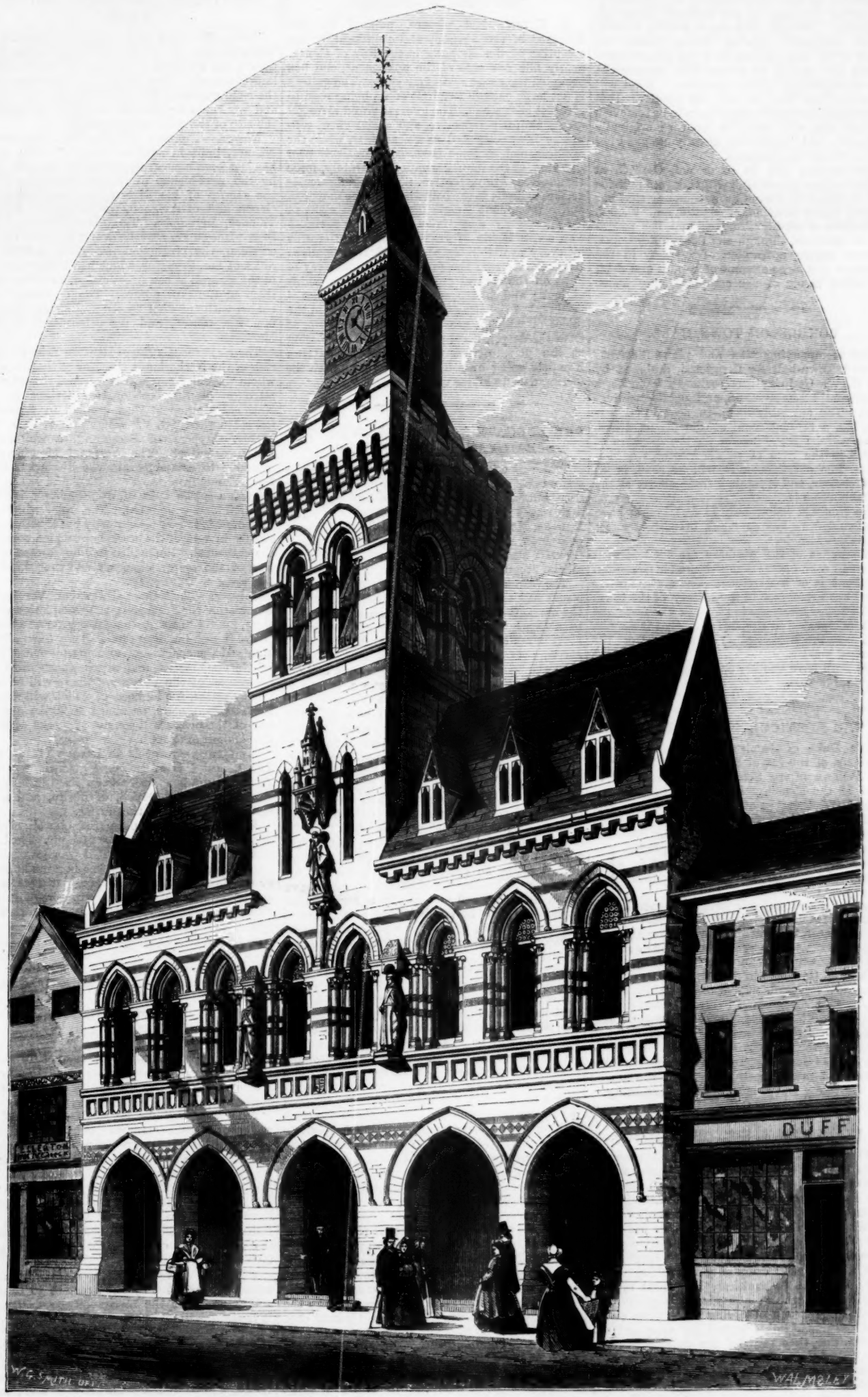
Notwithstanding the refusal of the trustees to entertain their proposition, these gentlemen engaged the services of Mr. Wm. Fairbairn, of Manchester, and others, to inspect and survey the ship; but, unfortunately, their reports could not be obtained in time to form a company before the day fixed for the sale, and this expense and trouble were wasted.

Mr. Fairbairn's report, which has since been printed, proved the value of the ship, and upon it a company would certainly have been formed had there been sufficient time before the sale. The consequence, then, of the refusal of the trustees to give the option of purchase for three weeks to the gentlemen who incurred the expense and trouble of these surveys, was that two or three days afterwards the ship was sold by auction to the new company to which we have already referred.

It is a singular and somewhat anomalous position in which some of the directors of the company have placed themselves. They were the acting directors of the Great Ship Company, when the first winding-up petition to the Court was presented. They then sold their shares in the company, and became disqualified to act as directors; but being large bondholders, they retained their control over the ship. By their influence and votes the trustees were obliged to put up the ship for sale by auction; by their influence and advice the trustees refused to entertain the offers made for the ship after the first offer for sale by auction; and ultimately, under the same influence, the bondholders sell the ship for 25,000*l*. to a company of which three of the directors of the old company and the principal bondholders are directors and shareholders.

They are now, therefore, in possession of a valuable property, upon which, whilst it was under their management as directors of the Great Ship Company, 550,000*l*. have been sunk and lost; and the next question arises, what will they now do with her that they could not have done as directors of that company, and for the benefit of the whole body of mortgagees and shareholders?

First, then, *immediately after* they obtain



CONGLETON TOWN HALL.—MR. E. W. GODWIN, ARCHITECT.

possession of her, they complete an agreement for letting the ship to the Atlantic Telegraph Company. For this they are to receive 50,000*l.* of the company's paid-up shares, besides the repair of the ship and her care and maintenance during the twenty or twenty-four months she is to be employed by that company. What will become of her then no one can predict. It is understood her paddle-engines are to be removed, so that she will never be tried as originally designed; and report has already assigned her to the French Government.

But whether this be so or not, the "Great Ship Company (Limited)," will sink into oblivion and be forgotten, except as a company that has wasted nearly 500,000*l.* of capital, and 40,000*l.* or 50,000*l.* of creditors' money, and has passed out of existence, through the Bankruptcy Court, without paying a fraction of a penny in the pound on this large amount of capital and debt, the entire assets of the company being under 20*l.*

CONGLETON TOWN HALL.

THE acompanying view and plans illustrate the new Town-hall for Congleton, designed by Mr. E. W. Godwin, architect. It includes a court-room, assembly-room, and public reading-room. The assembly-room, to seat 1,000 persons, has a retiring-room at the platform end, which will be found useful for the speakers or singers in the case of public meetings or concerts. The court-room, it will be seen, is on the first-floor, and is lighted from above, as the assembly-room is.

The frontage being only 71 feet, breaks have been avoided, to get as much breadth of effect as was practicable.

The arches of the windows are filled in with the small round glass manufactured in Germany. The front is of local stone. The statues introduced have reference to the history of the town.

The tower measures to the apex 110 feet: the clock is elevated to the top of it, that it may be seen from the Market-place as well as from the principal streets.

We shall have another opportunity to go more fully into details.

THE HORTICULTURAL GARDENS.

THE Duke of Buccleuch's *conversazione*, as president of the Royal Horticultural Society, to the Fellows of the Society, who assembled in force at the Kensington Museum, to meet the Prince and Princess of Wales, was a very successful one. There was an exhibition of bouquet-holders, flower-stands, vases, and other objects of interest, including some sculpture. The Prince and Princess of Wales remained for some time (in the gallery), and examined with interest the objects exhibited.

From a correspondence between General Grey on the part of her Majesty and Mr. A. Murray, the Society's secretary, it appears that her Majesty, while expressing the gratification which she received from her recent visit to the gardens, authorized General Grey to suggest the annual opening of the gardens, *free*, to the public, on the anniversary of the late Prince Consort's birthday,—the 26th August, as an arrangement which would be especially gratifying to her Majesty, on account of the interest taken in the gardens by the Prince Consort. To this suggestion Mr. Murray informed General Grey that the council of the Society had great pleasure in assenting.

BRADFIELD RESERVOIR FAILURE.

THE outlet pipes of the Bradfield reservoir have been closely examined and tested during the week, the result proving that the bursting of the reservoir was not due to any default in the outlet pipe. The main was tested with a force equalling double that excited by the waters of the reservoir, without any leakage taking place. A man was then sent through the large pipe; and, after closely examining the joints, which were found to be faultless, he placed lighted candles at regular intervals throughout the whole length. On observing these from either end, the row of lights formed one even and unbroken line, thus proving the uniform level of the bed of the pipes. The theory that the accident was caused by the pipes giving way in the embankment, is thus entirely disproved. Every day seems to show more clearly that the view we took of the cause of the disaster was the correct one.

THE FRENCH GALLERY.

M. GUDIN'S last picture, painted for the Emperor of the French, and representing the reception of the Emperor in the Bay of Genoa, nearly fills one side of the apartment, and has occupied the artist some four years. The gallery is not large enough to admit of its being seen to greatest advantage. The general grand arrangement, skilful perspective, and aërial effect cannot be fully estimated on a near view, while the stiffness, and in some cases comparatively poor painting, of the figures scanned separately, force themselves on the attention. Some of the figures,—as, for example, in the barge bearing the Emperor, and a prominent female figure on the right of the spectator,—seem, indeed, to call for revision. The scene is one of great enthusiasm: crowds fill every available space: the rigging is alive: the decks swarm: the sun pours a sudden ray of light on the central object, the point to which all look; and the sea, sprinkled with bouquets of flowers, has the aspect of a vast parterre, in the midst of which some black sailors bear up, as from the deep, a floral crown. It was interesting at the private view to see our own veteran Stanfield going over it, piece by piece, with the distinguished painter of the picture.

THE LUDGATE STATION OF THE DOVER RAILWAY, BRIDGE STREET.

THE works in connexion with this important station on the Ludgate extension of the London, Chatham, and Dover line, from the projected new street at Earl-street, Blackfriars, to the Mansion House, to its junction with the Metropolitan at Farringdon-road, are now in such a forward state of progress that we may furnish a brief account of them.

The western front of the station facing Bridge-street will stand recessed from the true line of the carriage- and foot-way on the eastern side, to a depth of 30 feet, so as to give sufficient room out of the main thoroughfare for a hackney-carriage stand and for vehicular traffic to and from the booking-offices and the arrival and departure platforms, which will have a length of about 1,500 feet. The principal front will be 450 yards long. The northern one, in Little Bridge-street, and the southern, near the new Earl-street, will pass over Union-street nearly in a line with the front of the *Times* printing-office, close by Playhouse-yard. The whole of these works will be similar in style of building to the station at Blackfriars-road, and will correspond, consequently, in every respect with the other stations on the line, with the exception that the one in Bridge-street will be more elaborately adorned than the other buildings. A room, 68 feet square on ground plan, but laid out for staircases and other conveniences, so as to have partly an octagonal and partly a semicircular appearance, will be erected for the purposes of ticket-offices, &c., with an extensive refreshment department ranging the whole length of the rear of the building. The whole of the waiting, refreshment, and first and second-class rooms, with the booking-offices, will be tastefully fitted up, the ceiling over head being formed of the iron girders of the line, supported by iron columns. The descent from the platforms on the arrival of the trains will be so arranged that there will be no interference with parties going by starting trains, the staircases for egress being quite independent of the means of access to the platforms to be used for departure. Mr. Thomas is the engineer; and Mr. George Sharp the clerk of the works; Mr. Barnes being the agent to Messrs. Peto & Betts, who are the contractors for the Ludgate station (City extension) works of the railway. Mr. Taylor, jun., we conclude, directs the architectural portions, as in the former cases.

With respect to the general progress of this extension, we have been informed that, so far as can be at present seen, the railway bridge over the Thames will be completed within two months from the present date; and that the line will be opened to the Ludgate station, and ready for the examination of the inspector of railways by the 1st of October next. For the viaduct over Ludgate-hill, the whole of the iron castings are ready; and the fixing of them, it is expected, will not take more than six weeks; while the whole of the clearances northward are in a forward state; so that, no doubt, by the end of the present year, the junction of the line with the Metropolitan for through travelling purposes will be accomplished.

CONTINENTAL BUILDING AND ART NEWS.

Paris.—The very large range of stables for the Imperial stud on the Quai d'Orsay is now completed, and has been fitted up with all the latest improvements. The horses were removed from their old quarters, Rue de Montaigne, last week, and workmen are already employed in clearing the site of the now empty stables.

Nismes.—The new church of Ste. Perpetue at Nismes, built in modern French Gothic style, has just been consecrated with all due solemnity by the Archbishop of Nismes, accompanied by the clergy of his diocese, the archbishops of Genoa and of Avignon, the bishops of Viviers, Valence, Digne, &c. The prelates having taken their places upon an estrade constructed for the occasion, the procession proceeded to fetch the relics of Ste. Perpetue, which had hitherto rested in the Church of the Assumption, and deposited them in the new edifice. The ceremony concluded with speeches by the archbishop of Avignon and others, and the celebration of High Mass.

The Hague.—His Royal Higness Prince Frederick of the Netherlands (brother of the King), to whom the chief committee referred the ultimate selection of the best of two designs for the National Monument, has decided in favour of the set marked "O. V." which proved to be that of Mr. Cuypers, of Roermond, a well-known Dutch architect. The National Monument is intended to commemorate the liberation of the Netherlands from the French yoke in 1813.

Vienna.—The spire of St. Stephen's is being restored and completed. The finial which will surmount it is now temporarily put together, and stands in one of the workshops which surround the cathedral. Some idea will be formed of the size of the spire, when we add that this finial measures 15 feet across.

Cologne.—The "Central Dombau Verein," or Association for Furthering the Completion of the Dom, intend to institute a lottery for the benefit of the church-building fund. They have already obtained the concession and permission of several German states, and expect to organize it in the course of the autumn. There will be eight money prizes, the highest of which will amount to 100,000 thalers, or about 15,000*l.*; and the rest of the prizes will consist of works of art to the amount of 4,500*l.*

Konigsberg.—Kant is to have a statue here. The pedestal is of polished granite, weighing 22 tons, and has lately been fixed in its place. The statue is by Rauch, of Berlin, and is described as worthy of that artist.

Holstein.—The fine old parish church of Plön was destroyed by fire on the 24th ult. The tower was struck by lightning; but it was not until two hours afterwards that the fact became apparent by the flames suddenly bursting out from end to end of the church. In three-quarters of an hour all was over. Luckily the spire, and then the tower, both fell into the church, and not into the street, or the loss of property and life would have been considerable. The church was of the seventeenth century (1690), and was in the nondescript style at that time so much the fashion in Holland.

COMPETITIONS.

Hexham Corn Market.—A competitor asserts that the premium has been awarded to a design set forth in *colours*, though the conditions prescribed sepia.

New Town-hall for Rochdale.—The Rochdale general purposes committee, to whom the designs for a new town-hall were referred, have awarded the premiums as follows, viz.:—First, 100*l.*, to Mr. W. H. Crossland, of Leeds; second, 60*l.*, to Mr. J. W. Best, of Bolton; and the third, 40*l.*, to Mr. J. Maxwell, of Bury; and the town council have adopted the design of Mr. Crossland, conditional on certain alterations of detail, and on the entire cost of the building not exceeding 20,000*l.*

Wyggeston's Hospital.—A report from the architect appointed by the trustees to examine and advise upon the merits of the designs for Wyggeston's Hospital, names "W. within O." for the first place, "Melton" second, and "The Hospital Seal" and "Desideratum" equally for the third place. If the trustees adopt this selection; to the first, by Mr. Ordish, of Queniborough, will be awarded the prize of 50*l.*; to Mr. Giles, of London, and Mr. Gundry, 25*l.*; and to either Messrs. Kirk & Parry, or Mr. Millican, 25*l.*, for the third.

PARLIAMENTARY.

The Metropolitan Railways Bill.—On Monday, Lord Redesdale announced that certain bills relating to metropolitan railways had just come up from the other House, and that it was his intention to move the suspension of the standing orders, in order that those bills should be allowed to proceed, notwithstanding the advanced period of the session.

Mutilation of Ancient Irish Monuments.—On Mr. Gregory inquiring of the Chief Secretary for Ireland whether Government would prosecute the offenders at Clonmacnoise, according to the provisions of the Act 24 & 25 Vic., cap. 39, Sir R. Peel said his hon. friend had made a curious mistake; as the 24 & 25 Vic., cap. 39, was an Act for the purification of Brighton. The 24 & 25 Vic., cap. 97, was the Act under which the proceedings in this case would be taken. Whether Government would restore the monuments he was unable to say.

British Museum.—On voting 92,127*l.* for the expenses of the Museum, some conversation took place as to what should be done with respect to increased accommodation, and the Chancellor of the Exchequer said the Commissioner of Works had taken steps to advance the subject by inviting the presentation of a plan, but the time had not come for making any proposal to the House.

SANITARY STATE OF DEBENHAM, SUFFOLK.

IT would appear that the road through this town consists in some places of the bed of the river Deben, which, for the greater part of the year is perfectly dry, but at all times is used as a kind of open sewer for a good deal of the drainage. The consequence is seen in the fact that the average mortality of the town, for the ten years ending March last, is 24 in 1,000, whilst in the adjoining parish of Winston it is only 17 in 1,000. Fever has been so rife that in only eight families there were thirty-eight cases and two deaths between Michaelmas and Lady-day last. For some time past, it appears, the Vicar (the Rev. C. J. Cornish) has been doing his best to arouse his parishioners to the necessity for a more efficient system of drainage. After fair warning, he applied to the Home Secretary, and Dr. Bristowe, medical inspector, has visited Debenham. Meantime a committee has been also at length appointed by the Board of Guardians, and it is hoped the sanitary state of Debenham will shortly be improved.

SANITARY PROGRESS IN SHEFFIELD.

THE people of Sheffield and its town council are to be congratulated on the circumstance that the council have at length resolved, by a majority of 36 to 14 votes, to adopt the local government Act for municipal and sanitary purposes. This measure has been carried in the face of much popular clamour, and justifies our investigation, which may have led to it.

PREMIUMS GIVEN BY INSTITUTION OF CIVIL ENGINEERS.

SESSION 1863-64.

THE Council of the Institution of Civil Engineers have awarded the following premiums:—

1. A Telford Medal, and the Manby Premium, in books, to G. H. Phipps, for paper "On the Resistances to Bodies passing through Water."
*2. A Telford Premium, in books, to J. Baldry Redman, for paper "On the East Coast, between the Thames and the Wash Estuaries."
3. A Telford Medal, and a Telford Premium, in books, to W. Lloyd, for "Description of the Santiago and Valparaiso Railway, Chile, South America."
*4. A Telford Premium, in books, to W. Parkes, for "Description of Lighthouses lately erected in the Red Sea."
5. A Telford Medal, to M. Pernolet (of Paris), for paper "On the Means of utilizing the Products of the Distillation of Coal, so as to reduce the Price of Coke, &c."
6. A Watt Medal, and a Telford Premium, in books, to T. Sopwith, junior, for paper "On the Actual State of the Works on the Mont Cenis Tunnel, Victor Emmanuel Railway, and Description of the Machinery employed."
*7. A Watt Medal, to W. Bridges Adams, for paper "On the Impedimental Friction between Wheel Tires and Rails."
8. A Watt medal, to J. Cross, for paper "On the Structure of Locomotive Engines for ascending Steep Inclines."
*9. A Telford Premium, in books, to J. Mortimer Heppel, for paper "On the Closing of Reclamation Banks."
10. A Telford Premium, in books, to G. R. Burnell, for paper "On the Machinery employed in sinking Artesian Wells on the Continent."

* Have previously received Telford Medals.

ARCHITECTURAL ALLIANCE.

THE annual meeting of the Architectural Alliance was held in the Rooms, Conduit-street, Wednesday, July 6, Mr. T. Roger Smith, president, in the chair.

There were present delegates from all the allied societies, viz., the London Architectural Association, Institute of Scottish Architects, Birmingham Architectural Association, Bristol Society of Architects, Glasgow Architectural Society, Liverpool Architectural Society, Manchester Architectural Association, and the Northern Architectural Association.

The Hon. Secretary, Mr. Pritchett, of Darlington, read a report of the proceedings of the past year, detailing what had been done.

The Nottingham Architectural Association was admitted into the Alliance on the recommendation of the London Association.

The alterations in the scale of charges proposed by the various allied societies were discussed, and a scale definitely fixed agreeing almost entirely with the scale published by the Institute, and it was left with the various societies, to add notes respecting any local variations which they might wish, subject to the approval of the Alliance.

A circular drawn up by the hon. secretary, to be sent to the managers of competitions was read, and ordered to be printed for use, after being revised by the officers of the Alliance.

Resolutions were passed, declaring that it is desirable to adopt a uniform system of measurement throughout the country, and that the London system be taken as the basis.

The officers were re-elected for the ensuing year, viz.—Mr. T. Roger Smith, president; Mr. H. C. Chamberlain, vice-president; and Mr. Pritchett, treasurer and hon. secretary.

Some votes of thanks were passed, after which the meeting adjourned to eat the annual dinner.

BRISTOL SOCIETY OF ARCHITECTS.

THE monthly meeting of the council was held at the rooms of the Fine Arts Academy,—Mr. Fripp, the vice-president, in the chair,—on Monday, July 4.

The Rev. R. W. Hantenville, M.A., of Weston in Gordano, Somerset, was elected an amateur member; and Messrs. F. M. Harvey, A. Hazeland, and W. E. Jones, student members.

A committee was appointed to report upon the advisability of publishing a volume of Transactions.

A committee was also appointed, on the motion of Mr. E. W. Godwin, for the purpose of establishing a class, to be called the "Students' Class," at which a course of study would be arranged, and examinations made, to facilitate the students in passing the examinations at the Royal Institute of British Architects.

The discussion upon Mr. Underwood's paper on "Measurement of Artificers' Work," was continued.

It was unanimously resolved, and the delegates to the Architectural Alliance meeting were instructed to support such resolution,—

"That inasmuch as this Society has already adopted the scale of professional charges published by the Institute of British Architects, it has no reason to make any of the alterations proposed by the Alliance; and that any local customs required by local societies should in justice to the profession be placed as notes at the end of the Institute's scale."

THE JUNCTION ROAD OUTFALL AT BRIGHTON.

SINCE a mishap about three weeks since, no attempt was made to float the third length of piping in continuation of this Outfall until Tuesday in last week. On the occasion to which we have referred, the eastern end of the piping did not get clear of the shingle, and the consequence was, that the remainder of the piping was jolted and strained, thus necessitating its removal to its original position at the head of the beach. In consequence of this mishap, repairs had to be made to the joints; and, during the late boisterous weather, the length has been extended on the ways, and fresh appliances laid down. The operations were this time successful. The pipes were left lying in the water till low tide, when they were sunk in the same manner as the previous lengths. Since then the last piece of piping of the Junction-road outfall has been successfully floated out to its place below low-water mark. The sea was rather rough at the time. It was lowered into its resting-place, and its junction effected by the divers. It was 250 feet long, and it carries out the out-fall to the length determined on, namely, 1,760 feet, or the third of a mile; taking its head into the sea considerably beyond the outer platform of the Chain Pier. At present, the outfall lies in the bed dredged for it without any securing; but it is intended to fasten it down with moorings. The contractors for the work were Messrs. Aird & Son: the contract price was 6,800*l.*; and the work was commenced about a year ago. It is believed to be a unique work of its kind, no piping having before been laid in the sea to such an extent beyond low-water mark.

BRICKMAKING MACHINE.

A NEW machine, patented by Messrs. Bawden & Co., Clifton-street, Notting-hill, is at full work in the brickfields of Messrs. J. & S. Williams, Richardson, & Co., at Shepherd's Bush, producing hard bricks, good in form and surface. From the simplicity and strength of the mechanism, it is not liable to get out of order, nor to be clogged by clay; and it may be managed with effect by any ordinary workman in two hours' practice. The machine, throwing off from 1,200 to 1,400 bricks per hour, is about the size of an ordinary pug-mill, standing on wheels upon a frame, under a box about 4 feet square, by 6 feet high, in the centre whereof a vertical iron shaft, armed with blades, on the Archimedian-screw principle, is turned by horse-power, mixing and thoroughly kneading the clay, which is thrown in at the top, and delivered at the base, in moulds of bricks complete: these are rapidly emptied on trays, laid on a turntable, and are then successively wheeled away to the drying stacks. The machine occupies but a small space, close to the heap of prepared material; and it is stated that, owing to the complete process of mixing, kneading, and compressing, almost any sort of earth, with a modicum of clay, will turn out excellent bricks.

Bawden's machines were first used in Canada, and furnished supplies to all the growing cities there. At the Exhibition at Montreal, inaugurated by H.R.H. the Prince of Wales in 1860, it obtained the first prize, the bricks for the Parliament buildings in Ottawa having been also made by it; and these machines are now at work in several of the counties of England.

DEATH IN THE REGENT'S CANAL.

THOSE who live close to the banks of the Regent's Canal, especially in the populous districts of St. Pancras and Islington, get somewhat accustomed to sorry sights, for the number of children and others who lose their lives here in the extent of two miles is remarkable. In a great measure this loss of life is caused by the want of attention to the fences which should be provided to prevent children from getting into danger, and the want of a watchman who would stop the occupation of the towing-paths by those whose lives are not safe in such situations. For instance, to the east of Thornhill Bridge, Caledonian-road, there is an infant school, and another school in which a very large number of children assemble. On one side of the canal at this point a steep bank leads to the water. Here there is nothing to prevent the children from placing themselves in great risk. At other parts the railings are broken, and are allowed to remain so for months together; and so by this, and in consequence of the want of a person to keep the way clear, boys and girls are constantly falling in, and many have endangered their lives in the attempt to rescue them. This is a subject which we recommend to the notice of the jury and the coroner at the inquest which may be held on the next sufferer; for the canal companies should be as much bound to prevent loss of life when their property stretches through dense populations as are the railway companies.

In the course of last week, Dr. Lankester held an inquest at the City of York, York-road, King's Cross, on the body of Edward Summers, seven years of age. The deceased and his brother were playing on the banks of the Regent's Canal, when the deceased's hoop rolled into the water. Deceased endeavoured to recover it, and fell in, pulling his brother into the water with him. George Waite, who was at work at Humphries's wood yard, heard that two children were in the water, took off his clothes and jumped in after

them. He dived, and brought up the body of the deceased. Isaac Featherstone, who works at the same place, brought up the body of the one who was saved; this being the *seventh* life he has saved near this spot. The writer, having for some time lived near this dangerous locality, has had many opportunities of noticing the bravery and intrepidity of these two lads, who, even in the depths of winter, rush eagerly to the rescue of life. Before the drags could be got from the station, they have been into the water, diving like otters, in search of lost bodies; and this they seem to do gladly, without fee or reward: but surely such praiseworthy conduct should not pass unheeded. We should be glad to hear that these few lines have been the means of bringing the matter under the notice of some who may help them upwards in life.

LONDON STREET NOMENCLATURE.

WE have on various occasions expressed our anxiety lest the Metropolitan Board of Works, in their well-meant endeavours to abolish arbitrary divisions, get rid of repetitions, and reform the irregular numbering of houses, should destroy the interesting associations and suggestiveness of our streets. This fear is by no means lessened, and has been recently expressed by several correspondents. We adopt part of the letter of one of the most recent of them:—I desire to protest against the improper use, as I consider it, of this power, when exercised in making unnecessary innovation on the old-established and time-honoured local associations, and probably suggested at the whim of private individuals. Let me allude to a notorious instance of vicious taste (perpetrated, however, before the Local Management Act of 1855), where a foolish builder was allowed to destroy the historical associations connected with "Battle Bridge," for which was substituted the term "King's-cross," meaning nothing more than a wretched brick and plaster attempt at a statue of the then king, so absurd in character and execution, that its subsequent removal as a nuisance was hailed by acclamation. The disreputable name remains to this day, under the sanction of the Metropolitan Board of Works, who have recently extended the "King's-cross" line of road into Clerkenwell, when they could as easily have restored "Battle Bridge," on whose reminiscences a volume might be written. But my main object just now is not so much with past doings, but with what is now undergoing discussion in the parish of Islington, where it is proposed to substitute, at the instigation of a few shopkeepers, the name "Essex-road," for the present "Lower-road." To say nothing of the absurdity of a designation having only a very indirect relation at all with Essex, the Central Board seems likely to sanction the removal of our oldest landmark, with its Elizabethan mementos, and associations coeval with the parish itself. Where is this senseless kind of proceeding to stop, unless the Board exerts its undoubted authority in such cases? for the outcry raised is likely to be disregarded, and all that remains is to call public attention to what seems to be a dereliction or at least a misconception of duty. A rumour is afloat, though it appears scarcely credible, that the Board of Works, influenced by a desire to abolish duplicate names, will not tolerate a *Lower-road* at Deptford and another at Islington!

PROPERTY IN BRADFORD.

ARBITRATION.

ON the 29th ult. the first of a series of arbitration cases, in respect of property scheduled for town improvements, was opened in the saloon of St. George's Hall, before Mr. Picton, of Liverpool, umpire; Mr. Lockwood, arbitrator for the Town Council; and Mr. James Bancroft, arbitrator for the trustees of the late Mr. J. M. Atkinson. The property which was the subject of inquiry is what was known as the Old Foundry property—a large block of old property situate in the line of the proposed extension of Market-street from Bridge-street and Manchester-road.

Mr. Lloyd, in opening the case for the trustees, said that the property about to be arbitrated upon was one of great interest and value. The question was, what was its fair value? Its area was 4,043 square yards; and, looking at its site, it would be difficult to exaggerate its value. The average yearly rental for the last five years was only 400*l.*; but in its present condition the property was a manifest anachronism, a relic of the past amidst valuable modern property. He therefore discarded the rental as a basis of calculation, and contended that the proper way to estimate the value of the area of 4,043 square yards, was to find what would be its worth per yard if the buildings were swept away and the land sold in building blocks. His witnesses would tell them that at the lowest estimate the ground for building purposes would be worth 6*l.* per yard. The learned gentleman showed that, by every usual mode of valuing, the same total estimate for the entire block would be arrived at, namely, 25,000*l.* It was his opinion that the Town Council would recoup themselves by the resale of the large portion of the site not required for the street. Only 966 yards were wanted for the street. The new thoroughfare would give excellent frontage to the part to be resold for building purposes.

Mr. George Knowles, architect and surveyor in Bradford.—The proper mode of dealing with it in order to obtain the best price for it would be to clear the ground, as it is not now in its most productive state. In conjunction with Mr. Andrews and Mr. Dixon I have laid out a scheme with the view of arriving at the value of the property, and I now show through the centre of the plan a street from Market-street to Chapel-yard 12 yards wide. Chapel-lane is 8 yards wide, and I have made it lineable, and also Toad-lane, and thus would make a sacrifice, by widening those places, of 1,376 square yards. The available property for building would then be 2,298 square yards, with 376 square yards for carvits or yards. The value of the land thus worked out I estimate would be 5*l.* 12s. per square yard upon the whole area, and not upon the net area. Upon the whole area the average value is 5*l.* 12s. per square yard according to the method applied, which would be 22,675*l.*, to which add 20 per cent. for improveable value, and the sum is 27,210*l.* Allowing for deferred value when the property is setting during two years at 4 per cent. 2,052*l.*, and the sum is reduced to 25,158*l.* This is, I think, a very fair and reasonable valuation, and facts are within my own knowledge to justify such valuations.

Mr. Thomas Dixon, land surveyor.—I think, taking all the plots together, that 5*l.* 12s. per yard would be a fair price for it. I have no doubt that it would realize all that I have put upon it. With discount, the cost of the land would be 25,158*l.*

Mr. Wm. Andrews, architect, said:—I went over the calculations with Mr. Dixon and Mr. Knowles, and agree with their figures, and think that the rental is not extravagantly high. I agree in the 20 per cent. mentioned in consequence of what has been called the compulsory rate, or improving value.

Mr. Thomas Newsam, land surveyor, Leeds, said:—My opinion is that the ground in question is worth 6*l.* 6s. per square yard, for either buyer or seller. Property is not so valuable in Leeds as in Bradford. What I think worth 6*l.* 6s. here would not bring more than 4*l.* in Leeds. I make the value of the property to be 20,471*l.*, and that without the 20 per cent.

Mr. C. E. Cawley, Manchester.—I think the estimated cost of the proposed buildings very moderate. The cost which I think ought to be paid for it is 23,217*l.* 10s., to which I would add 10 per cent., making a total of 25,540*l.*

The case for the Corporation was opened on the following day.

THE INCISED ROCK SYMBOLS IN NORTHUMBERLAND.

SIR,—The single illustration given by Mr. Dove of these singular relics is not sufficiently typical to have enabled him to come to a correct conclusion as to their origin or use. The most general form is that of three or four concentric circles with but one outlet from the centre: this fact quite upsets his theory.

Nor is the statement correct that these stones have been recently discovered. In 1852, the Rev. W. Greenwell gave a description of the rocks first discovered to the Congress of the British Association at Newcastle; and, in October of the same year, Mr. George Tate, secretary of the Berwickshire Naturalists' Club, gave the members an elaborate account of them. On that occasion a drawing was furnished of the most important one, at Routing Linn, by the Rector of Ford. Mr. Tate has also laid the subject before the Society of Scottish Antiquaries. I have made a drawing of the groups of figures on the curious scalp at Routing Lynn, and can testify that there are configurations there that would bear no such explanation as that given by your accomplished correspondent. As at Doddington and Bewick, there are concentric incisions of horse-shoe forms, with but one outlet; others arranged in a branch-like manner; and still more of circles attached to others of different dimensions.

This is a subject that cannot be disposed of at first sight. The rocks are situate on the most exposed situations on the bleak hills and moors of this county adjacent to, but not, as reported, *upon* the Cheviots; and consequently can only be visited for purposes of study in fair weather in the summer months. On a cloudy or wet day many of the slightly incised marks might be overlooked; and, as they lie in various places of several miles' distance from each other, their examination is a work involving the lapse and labour of several of our short seasons of summer. Mr. Tate has bestowed his care upon the subject, and is about to present the result in a comprehensive and exhaustive paper.

F. R. WILSON.

IN Mr. Wilson's communication, which you have been good enough to refer to me for my remarks, he himself speaks of "*three or* four concentric circles," with one "outlet," as sufficiently *typical* of "the most general form" of the rock symbols. It was precisely because it is so in the somewhat more essential respect of threefoldness (and for economical reasons as well) that I gave the three-circled illustration only. As to the also variable contingency of "but one outlet from the centre,"—notwithstanding what Mr. Wilson says, that does not and cannot in the slightest degree even affect my "theory," far less "quite upset" it; and Mr. Wilson must be labouring under some singular misapprehension on the subject. Although I have chosen an illustration with two "outlets from the centre," as Mr. Wilson calls them (why not *inlets to* the centre, and why not branch or stick shapes *pointing* to the centre?) merely because it happened a little more closely to resemble a symbol of my own; nevertheless I have myself drawn special attention to the circumstance that "a *single* rough branch- or root-form, forked at the outer circle, and POINTED *at the central depression*," also occurs; and have even said that the frequent occurrence of a single circle and central point (without *any* "outlet" or "inlet" at all, be it noted), and even of the central point without any *circle*,—far less any "*outlet*," —seems to have been intended,—together "with the pointing of branched and other stick shapes ('outlets' or inlets) always towards the centres of the concentric circles,"—to "fix the attention, above all, upon the central point." And, indeed, one pointer more clearly harmonizes with this theory than two. How, then, can my theory be "quite upset" by the mere circumstance that the illustration I gave happens to have *two* such pointers instead of only one, in order to direct the attention to the centre? I have myself even also noted that sometimes a *single* branch or root shape is "hooked, like a bishop's staff, round the centre." If what I have called the branch or stick shapes pointing to the centre, and what Mr. Wilson calls the outlets from the centre, were really intended, like the centre *per se*, and the centre and single circle without any pointer, to fix the attention upon the centre (which is what Mr. Wilson must here mean by my "theory"), what *can* it signify to that theory how many or how few of these pointers there are in any one particular symbol? There might be twenty just as there is often only one, without in the least affecting the verisimilitude of the idea. The pointers do vary, and even so do the circles, in number; *but the one essential point,—the centre,—never varies, and is never awanting.* Every variation, however, may have a symbolical meaning. Thus, nine circles, which do occur, may denote the threefold *subdivision* of the threefold *division* of the mind into positive, comparative, and superlative regions.

Mr. Wilson is quite mistaken (as must be evident) in his supposition that because I have for economical reasons given merely one illustration, I must have therefore come to my conclusion as to the origin or use of such symbols from a consideration of that one illustration alone.

Of course, by the word "theory," Mr. Wilson does not and cannot allude to my psychological theory, which is not based on rock or any other symbols at all, but on psychological principles,—explanative of many symbols certainly, but neither derived from them nor in any way dependent cn them, nor capable of being "upset" by them, or by any possible explanation of them, or of any class or section of them.

That other forms of the rock symbols are explainable *on the very same psychological principles* I have not the least doubt; but my restricted purpose was to deal with the more general forms of the *circular* symbols alone; and in carrying out that purpose I chose what appears, from Mr. Wilson's own showing, to be essentially "the most general form" of such symbols, in spite of "one outlet" being more general than two or any other number. I am persuaded, however, as I have already indicated, that the stick or branch forms have also in themselves had a

symbolical meaning, connected, like the circles, with the concentrative and radiative principles of life; and, although two such branch forms might denote both, so might one, considered both as a root and as a branch, on the arterial and venous idea already explained in one of my letters on Geometrical Symbols.

Of the wavy and other angular symbols I have also already offered explanations quite consistent with my psychological theory, but having nothing immediately to do with centres of circles; and as to the horse-shoe-and-centre form, that is a mere modification of the centralizing idea, and no more affects it than the taking away of all but the root and branch with crossing *segments* of the concentric circles, in my own symbol, as given in my last letter, would have affected *its* meaning. *The possible symbolical modifications of one and the same idea are endless.* I before gave the concentro-radiative tree-form, it may be remembered, without any circles at all, but still with one and the same concentro-radiative meaning. The branch-like symbols and the double ones are quite explainable on my views as well as the others.

I need only further remark, that, although certain of the rock symbols may have been long known, others appear to have been of recent discovery, and to have thus called attention to them generally. To the fact, however, that the concentric circled symbol was to be found among the long-known Irish sorcery hall symbols, and that the single circle and centre, of the rock symbols, was also otherwise widely spread and well known, I called the special attention of your readers in my letter.

It may or may not be unfortunate for Mr. Tate that I have preceded him; but Mr. Wilson should have given my letter a little more consideration before attempting to clear the way for him by so futile an endeavour to "upset" and extinguish my little "theory" as to the circular rock symbols. J. E. D.

THE LONDON HOMES OF EMINENT MEN.

A CORRESPONDENT writes,—I am glad to notice that you pursue the idea which you have on several occasions urged in the *Builder*, to mark in a permanent manner the houses in which our greatest men have lived, and where they have performed important works, and received honoured contemporaries. The value of such a step would be great in our own, but far more so in future generations, and it would be the means of saving many a relic which will otherwise be ruthlessly swept away.

The task of doing this would be an easy one, and not attended with any great expense; but what seems to be wanted is the practical supervision of persons who, feeling interest in the movement, would prevail on the proprietors of premises to place some mark for their identity. Some would not go to the expense themselves, but would have no objection to have it done by others. It is therefore needful that some funds should be provided to meet these emergencies; and it seems very desirable that we should have a society formed of those who are interested in the subject, which might be the means of directing the public attention to places which require care. By this means there can be little doubt subscriptions sufficient for the purpose would flow in. In these days we cannot hope for anything to be done in this way by the Board of Works, nor by the parish Boards; and there is but small hope from the City corporation; but surely if this business were brought to the notice of one of the Archæological Societies, or of the Antiquarian Society, we should soon have a useful body of workers, who would see that London was not behind Paris in doing honour to its worthies.

A LONDON ANTIQUARY.

*** The Society of Arts would be a very proper body to undertake the work.

CLERGYMEN'S CLUB.—A company has issued a prospectus for the erection of a club and hotel for clergymen in London. The capital is placed at 100,000*l.*, in 10,000 shares of 10*l.* each; the deposit being 1*l.* per share on application, and 1*l.* on allotment. In addition to the club and hotel it is proposed to provide a common hall or chamber for meetings, and rooms for church institutions or societies as offices. The directors are in treaty for a suitable site in the neighbourhood of Charing-cross.

THE METROPOLITAN BOARD OF WORKS.

AT the meeting of the Board, on Friday, the 8th, at the offices, in Spring-gardens, the chairman, Mr. J. Thwaites, presiding; a correspondence, which had passed between the officers of the Board, the Thames Conservators, and the Office of Works, relative to the filling-in of the Thames Embankment; was read, and it appeared from it that the Thames Conservators complained that, instead of the contractors who were carrying out the Embankment using material dredged from the river, as ordered by the Legislature, they were filling in with rubbish obtained from other sources. The chairman stated that the contractors had taken all the material supplied by the conservators; and that if the fillings-in were to be all taken from the bed of the river, the works would not be completed in double the time allowed.

The chief engineer (Mr. Bazalgette) presented his annual statement of the works carried out and in course of formation under the Board. He informed the Board that the works had continued during the year without any material interruption, and that a large amount of tunnelling had been completed on the south side of the river under canals, railways, and large buildings, and through treacherous soil filled with water, with but few casualties. Many of the large sewers had now been completed, and on the north side of the river 14,000,000 gallons of sewage were discharged at Barking, and on the south side 12,000,000 gallons discharged at Crossness, being, on the whole, 26,000,000 gallons of sewage now discharged into the river far out of the metropolitan limits, at such a turn of the tide as to carry the obnoxious fluid seawards. This quantity is one-third of the whole metropolitan sewage. The following works were reported as completed at the cost attached to each:—Northern High-level Sewer, 9 miles in length, 203,816*l.* 7*s.* 9*d.*; Northern Outfall Sewer, 5¼ miles of double and treble lines of sewers, 643,000*l.*; Middle-level Sewer, 12 miles in length, about 314,000*l.* (completed, with the exception of the aqueduct, across the Metropolitan Railway at Farringdon-road); Northern Outfall Reservoir, for the storage of sewage, 166,000*l.*; Southern High-level Sewer, rather more than 9¼ miles in length, 215,299*l.* 1*s.* 5*d.*; Bermondsey Branch Sewers, 96,000*l.*; and Southern Outfall Sewer (exclusive of land purchased by the Board), 310,648*l.* 2*s.* 6*d.* With respect to the Thames Embankment, the value of the work done, materials, &c., on the first contract (between Westminster and Waterloo Bridges), was about 37,000*l.*; and on the second (from the east side of Waterloo Bridge to the Temple Gardens) about 18,000*l.* He also reported that the drawings and specifications for the Southern Thames Embankment (from Westminster Bridge to Vauxhall) would be ready for tender in October next. The report was referred to the Main Drainage Committee.

FALL OF A WALL AT KENTISH TOWN.

THE flank wall of a small house on the Conservative Land Society's estate, Maiden-lane, Kentish-town, of recent erection but undergoing demolition in consequence of the contemplated works for the Hampstead and Tottenham Junction Railway, fell, or was forced down by the wind, on Monday last, under peculiar circumstances, resulting in the instant and lamentable death of one man, and the very serious injury of another. The building was two stories in height, and the wall which fell was about 26 feet long, 18 feet high, and one brick thick. All the return walls, cross partitions, joists, and every matter which would have constituted a support or strut had been removed by the men on their own responsibility. It should be noted, that the woodwork had been purchased by one party and the brickwork by another, hence a divided interest in the management of the clearance, which appears to have resulted in the too early removal of the abutments which would have prevented the catastrophe.

The coroner's inquest, after a careful investigation of the facts, returned a verdict of "Death from accidental causes;" but in the course of the inquiry Dr. Lankester remarked that the evidence laid before the jury seemed to indicate in this case, as in most others, the absence of caution on the part of the workmen themselves, who incur voluntarily unnecessary risks, where their employers would have a very strong hesitation in ordering them into such situations. The evidence in this case proved that these men had several warnings from a bystander of the trembling condition of the wall, but without making any impression on them.

INJUNCTION: COTTER *v.* THE METROPOLITAN RAILWAY COMPANY.

BEFORE Vice-Chancellor Sir R. J. Kindersley, an injunction has been obtained to restrain the Metropolitan Railway Company from entering and taking possession of a house, No. 20, Lower Whitecross-street, which the plaintiff held under a lease. The plaintiff claimed 3,650*l.* for purchase-money and compensation, and a bond was given in the ordinary form, except that after the words, "If the (obligor) shall pay into court," &c., were inserted the words "at any time hereafter," and at the same time the company threatened to take possession on the 7th of July.

The Vice-Chancellor was of opinion that no proper valuation had been made: it was necessary for that purpose that a house should be inspected internally. The objection as to the words inserted into the bond was fatal, not deciding whether an action would lie or not: it was a departure from the terms of the Act of Parliament. His honour adhered to the opinion he had expressed in "Gibson *v.* The Hammersmith Railway Company," and there must be a restraining order for the injunction until a proper valuation was made, as required by the 85th section, the amount paid into court, or the jury had given their verdict, with liberty to apply.

LONDON BELFRIES AND RINGERS.—The "Beadle and Steeple-keeper of St. Mary-le-bow," E. Watts, is not contented with Mr. Morris's account of his stairs and ringing-room. He says "the college ringers have rung at the church from the year 1850, and during this period I have not had a call made for a clothes-brush." We are glad to hear it.

COMPENSATION CASES.

THE THAMES EMBANKMENT.

AT the Sheriffs' Court, Red Lion-square, last week, the case *Gwynne* v. *The Metropolitan Board of Works* occupied the court for five days. It was the first contested claim. Mr. Lloyd and Mr. Horace Lloyd were for the claimant; and Mr. Lush, Q.C., Mr. Karslake, Q.C., and Mr. Raymond represented the Board of Works. The claim exceeded 30,000*l.*, and the principal question was whether Mr. Gwynne, who is an hydraulic and mechanical engineer at the bottom of Essex-street, by the Temple-pier, was entitled to compensation for being deprived of the water of the Thames, which was necessary to carry on his works. Last year his net profits exceeded 10,000*l.* He had taken new premises at Battersea, for which he paid 7,000*l.* The Board of Works did not require the premises for the embankment, and a roadway was now being formed, and which would, it was stated, be much better for the claimant. On his behalf it was, however, urged that waterside premises were essential to him, and to enable him to test the pumps made for foreign Governments. On both sides numerous witnesses were called. The design of the embankment was exhibited in court, and some of the witnesses were of opinion that property in the neighbourhood would be increased in value by the improvements in contemplation. On the part of Mr. Gwynne, a substantial compensation was claimed, and the several items were placed before the jury. Mr. Lush, Q.C., complained of the "monstrous" claim which he said had been made, and called witnesses to disprove some of the allegations advanced. It was impossible to exaggerate the importance to the public of the case now under consideration. The compensation would come out of the public money in the shape of rates. Mr. Lloyd admitted the importance of the case, and complained of the conduct pursued by those in authority, which had been shown in the matter. Mr. C. Pollock, the assessor, summed up the evidence extending over the several days, and laid down the law on the subject. The claimant was entitled to full and fair compensation. The jury retired at nearly five o'clock, and after a consultation of an hour and a half they returned into court, giving a verdict for 14,000*l.*

THE BUILDING TRADES MOVEMENT.

Swansea.—Most of the operative joiners and carpenters struck work for an indiscriminate rise of 3*s.* a week, or from 21*s.* to 24. A meeting of master builders and workmen took place, when the masters offered to give the rise from the 1st of April next, advancing 1*s.* of it in the mean time. These terms seemed to be favourably received; but at an evening meeting of the men the offer was refused, and most of them struck work. Various employers have since, according to the *Cambrian*, agreed to give the 6*d.* a day required, and others have offered 4*d.* a day, or 2*s.* a week. What the masters chiefly complain of is the demand for an immediate advance.

Wolverhampton.—After a six weeks' strike and part lock-out, building operations have recommenced in Wolverhampton. The bricklayers mediated between the labourers and the master builders, and got the men to withdraw the notice for an advance of wages, on the ground that they ought to have given a three months' notice, and not a fortnight's notice; and the masters have withdrawn the lock-out. Afterwards the masters gave the labourers an advance of 1*s.* per week all the year round, to make 18*s.* in the summer and 16*s.* in the winter; but they refused to make the wages in the winter equal with those in the summer, which the men at first required.

Coventry.—The strike here is said to be virtually at an end. Most of the labourers have resumed work, many of them at the old rate of wages.

Manchester.—The carpenters demand 2*s.* a-week more wages, which the masters refuse to give.

Sheffield.—The joiners' strike has been settled on the terms offered by the masters at the time of our last notice.

Leeds.—A rather numerous meeting of operative carpenters and joiners has been held at the bazaar, in consequence of an alleged violation by the employers of an understanding which was come to five or six weeks ago, that all men should be paid punctually at 12·30 on Saturdays, unless paid at 5·30 on Friday evenings; and a resolution was passed, recommending all the men to present themselves for payment at 12·30

precisely, and that if the employers objected to it, a meeting between the masters and men's deputations should be sought for. If that should fail to accomplish the object, then the men were to give six months' notice for an alteration of the existing rules, and also 2s. advance in the weekly wages.

Middleton.—The operative painters of Middleton have held several meetings, for the purpose of appointing a deputation to wait upon the masters for an increase of wages from 24s to 26s. per week, and, if this be not acceded to, the men declare they will cease working. One of the masters has granted their request.

SCOTLAND.

Pitcairn Monument, Colinton, near Edinburgh. A rural monument attached to the estate of Dreghorn, and erected in memory of David Pitcairn, of Dreghorn, an ancestor of Principal Robertson, the historian, and other public personages, has been repaired at the cost of several of his descendants, including the Earl of Minto, Baroness Dunfermline, Countess Russell, and others. The restoration was conducted by Mr. John Nicol, of Edinburgh, architect; while Mr. Wilkie, of Juniper-green, executed the masonwork; and the brass plate was engraved by Mr. R. Nicol, Edinburgh. The property is attached to the estate at Dreghorn, of which Mr. R. A. Macfie, of Liverpool, is proprietor. That gentleman, however, waived his rights, and encouraged the restoration of the fabric.

Dumbarton.—The new free church in High-street, Dumbarton, erected from designs by Mr. John Honeyman, jun., of Glasgow, architect, has recently been completed and opened for public worship. The plan of the church, the foundation-stone of which was laid on the 13th July, 1863, by Provost M'Ausland, is a simple parallelogram, about 70 feet long by 50 feet wide, arranged in the usual way, with galleries at the sides and end, the pillars supporting the galleries being continued up to support the roof also. The ceiling (which is plastered) is considerably higher over the centre aisle than at the sides, and a line of timber panelling at each side of the centre ceiling affords means of ventilation. The gallery front is of timber, panelled. The pews give sittings for about 850 persons. The principal front of the church is towards High-street, and the tower is introduced at one corner and the staircase at the other. The spire, which is at the corner of High-street and Brewery-lane, is 145 feet high, and is a prominent feature in every view of Dumbarton. The style of architecture is Early English, similar in character to what is seen in the older parts of Lincoln Cathedral. Over the entrance-door, which has a trefoil head, are three lancet windows, the mullions of which are enriched with detached clustered shafts of black Carnock stone, having carved capitals. Above these an enriched band-course crosses the gable, and also encircles the tower, and over that in the gable is another small triplet window. The mouldings of the skew, and many other mouldings, are enriched with dog-tooth ornament. At the south end of the church, and entering from Brewery-lane, is a large hall, which will be used for the meetings of the Presbytery. Adjoining this are the vestry, session-house, waiting-rooms, &c. The church is heated by means of hot-water pipes. The gasfittings consist of bronzed brackets below the galleries, and two bronzed star-lights of twenty-four burners each, light the galleries and body of the church. The cost of the buildings and fittings will be about 5,000*l.* The contractor for the masonwork was Mr. A. Coghill; for wrightwork, Mr. J. Connell, both of Glasgow. The plumber was Mr. W. Reid, Glasgow; the slater, the late Mr. Ferguson, Dumbarton; and the plasterer, Mr. Hutcheson, Dumbarton; the gas mains being supplied by Mr. Colvill, Dumbarton; and the other gasfittings by Mr. G. Mathieson, Glasgow. The clerk of works was Mr. W. Kent.

DISSENTING CHURCH-BUILDING NEWS.

Brightlingsea (*Essex*).—The memorial stone of a new congregational chapel has been laid at Brightlingsea. The building is designed in the early English period of Gothic architecture, and is to be erected with red bricks laid close with a dark mortar joint, strengthened by buttresses at intervals, formed with white Suffolk bricks and water-tables of Bath stone. The porch entrances, in principal gable, are to have solid stone jambs with columns, and a three-light stone window will be placed in the gable. The windows on each side of the chapel are also to be of stone, and the heads of the doors and windows will be relieved by arches formed with party-coloured bricks. The corbels to gable and the coping will also be stone, and the apex will be surmounted by a carved cross. The roof will be covered with slates, with ornamental ridge crest. The windows will be glazed with quarry glass in front, and tinted fluted glass at the sides, and ventilation is provided for by Hopper casements, with air gratings under the floors. The roof will be open to the interior of the chapel and the principal timbers will be wrought, moulded, and stained. The chapel will be fitted with open benches or stalls. A schoolroom and vestry are provided at the back of the chapel. The whole of the works are to be erected by Messrs. Lake & Gull, of Brightlingsea, builders, for the sum of 600*l.*, under the superintendence of the architect, Mr. Horace Darken, of Colchester.

Bedford.—The foundation-stone of a new Moravian chapel has been laid here, on the site of the old building at St. Peter's green. The plans and specifications have been prepared by Mr. Horsford, of Bedford, architect, and the contractors are Messrs. James Francis & Son. Roman is the style of architecture selected. The building is to be of brick, with stone quoins and window frames. The estimated cost is about 1,500*l.*——The architect of the proposed new Wesleyan chapel, Mr. Palgrave, of Pall Mall, having completed the plans of this building, tenders for its erection were called for, and have been delivered as under:—

For the erection of the chapel and school:—			
Mr. C. Day	£3,121	0	6
Mr. G. Bryant	3,142	11	6
Mr. S. Joy	3,249	0	0
For the tower:—			
Mr. G. Bryant	390	0	0
Mr. S. Joy	437	0	0
Mr. C. Day	483	12	6

Bisley (*Gloucestershire*).—The Wesleyan chapel just erected at Bisley has been opened. The building is a small Gothic structure, and has cost upwards of 400*l.* Most of the money has been raised.

CHURCH-BUILDING NEWS.

Boultham (*Lincolnshire*). — The chancel of Boultham Church is now being rebuilt, at the expense of Colonel Ellison, and, so far as it is executed, exhibits an improvement upon the old barn-like structure, erected only about a century ago. It is intended to complete the work by restoring the nave. In pulling down the old walls a carved stone of Norman architecture was discovered. It evidently at one time formed part of a large archway. The works are being executed by Messrs. Barker & Smith, under Mr. Drury's superintendence.

Earls Colne (*Essex*).—The parish church of Earls Colne has been re-opened, after having been closed for fifteen or sixteen months for repairs, which have been executed under the superintendence of Mr. Hayward, of Colchester, architect, at a cost of upwards of 3,000*l.* The contract for the works was taken by village tradesmen—Messrs. Rogers, Clark, and Cawston, and Mr. Bremer, of Colchester. The improvements include a new north aisle, corresponding with the southern portion of the church; the chancel renewed; the roof of the building laid open, stained, and varnished; and stained open benches substituted for the old pews.

Hertford.—At a meeting of the committee appointed to carry out the resolution of the vestry relative to the re-pewing of All Saints' Church, the secretary produced the plans sent in by Mr. T. Smith, who explained them. Mr. Smith proposed to re-pew the whole of the nave and chancel, and the transept, with open seats; and he had also included in his plan a new transept. The re-pewing would add 109 seats, and the proposed new transept 93, or an increase of 202 seats, so that the church, as proposed to be altered, would accommodate 780 adults. Mr. Smith's estimate of the cost of the alteration was as follows:—

Repewing old church, new floor and tiles	£600
Additional transept, with three new stone windows, Iron columns, and extra seating	450
Heating the church	160
Extra tiles for chancel floor	20
	£1,230

It was agreed to adopt the plans, with the exception of the transept, the omission of which reduced the estimated expenditure to 780*l.*

Northampton.—It has been resolved by the vestry of All Saints' to repair the church, and a committee has been appointed. Mr. Law, architect, has reported as to what is requisite; the summary being—

For general external restorations	£632
Inside restorations and decorations	510
Altering seats on ground floor	200
New gas-burners as suggested, 54 in number	110
New windows throughout, including glazing, and painting, and fixing, with ground glass on south side, and 19 casements	323
Total estimate	£1,775
If the organ chamber is erected add the sum of	£500

Weedon. — The restoration of the church chancel, which has been some time in progress, is at length completed, and the chancel opened. The chancel arch, which is in the Early English style, is higher and wider than the old one, extending to the roof. The doorway and south window are in the same style. The window is of stained glass. The east window is also of stained glass. In the centre is the "Good Shepherd," presented to the vicar by Mr. Powell, of London, who supplied the windows. The architect was Mr. E. F. Law, of Northampton; the builder, Mr. E. Roberts, of Weedon. The stone carving was the work of Mr. White, who also executed the carving of the new town-hall, Northampton.

Oxford.—The reparation of the south-west porch of St. Mary's Church, which has long been a subject of discussion, and for which a vote was granted last year by convocation, on the advice of Mr. G. G. Scott, has just been commenced. It is intended to saturate the stone, where practicable, with an indurating solution, and then to insert new material in the most decayed places, by which means it is hoped this interesting relic may be preserved. The unsightly south wall of the churchyard has also been taken down, and is being replaced by a low and ornamental erection.

Buckingham.—The Church of All Saints at Milton Keynes has been reopened by the Bishop of Oxford, after restoration. The restoration has been carried out by Mr. Street. The church is in the Decorated style. New roofs have been put on the nave and chancel, and carried up to the old pitch. The whole of the interior is fitted with open benches, and oak stalls in the chancel. The pavement is formed of encaustic tiles.

Old Windsor.—St. Peter's Church, Old Windsor, has been re-opened for divine service, after undergoing a restoration and renovation by Mr. Scott. Exteriorly its aspect is considerably altered: the new south porch is a feature on one side, and a north chancel aisle has been added on the other. Within all has been changed: the square boxes have been, of course, pulled down, together with the gallery, and the whole area has been fitted with open seats, to accommodate about 460 persons, and of these we understand something like two-thirds are to be free. The whole of the woodwork, including the roof, is of solid English oak, and the expense, including everything, has been about 2,800*l.* Of this the greater part has been raised by subscription, the roof alone having been put on at the expense of the church-rate. Among the features of the new chancel aisle we may mention a stained glass memorial window, by Messrs. O'Connor. In the left-hand base compartment is represented the Finding of Moses, and in the right Samuel and Eli. Above, in the left compartment, is the Holy Family, and in the right are Timothy and his Mother. In the extreme top of the window is a representation of Our Saviour blessing little children. It is intended, also, to fill in the east windows with stained glass,—the gift of a friend whose name is not, we understand, made public. In the new chancel aisle is also a mural brass, put up in memory of the same family as the window. The design of the organ-case was by Mr. Scott, and is Gothic, the front pipes of Mr. Walker's spotted metal. The whole cost of the instrument is about 250 guineas.

Walsden.—The church of St. Peter, which is situate in the Todmorden valley, at Walsden, has remained for some considerable time destitute of a spire. A special effort has been made by the Masonic body in the division to supply the deficiency, and the result of their appeal is the dedication of the newly-completed spire. The cost of finishing the spire is 300*l.* The architect was Mr. James Green, of Portsmouth, near Todmorden. Upon the tower is placed a "level," as a weather-vane, it having been considered appropriate, both as a Masonic emblem, and to surmount a building consecrated to divine worship.

Miscellanea.

WILTS COUNTY SURVEYORSHIP. — Mr. Henry Weaver, of Devizes, has been appointed to this office by a large majority of votes.

SCHOOLS OF ART.—The Southampton School has had a national medallion awarded to it; the York School four national medallions; and the Ipswich School one national medallion. Of course other medals and prizes have also been won by all three.

THE GLOUCESTER SURVEYORSHIP.—We understand that five of the candidates for the office of surveyor and chamberlain of this city were selected to have an interview with the Board of Health prior to the election. The candidates selected were Mr. Richardson, Barnsley; Mr. Ross, London; Mr. Fowler, Leeds; Mr. Jewett, Dorchester; and Mr. Colbran, Burnley.

MR. AND MRS. ALFRED WIGAN.—On Wednesday afternoon, in the presence of a fashionable assembly, Mr. and Mrs. Alfred Wigan gave a series of miscellaneous "readings" at Apsley House, with the permission of the Duke of Wellington. The "readings" comprised scenes from the "School for Scandal," the "Merchant of Venice," and "Hamlet," with Macaulay's "Horatius," Aytoun's "Death of Montrose," and two poems of Hood's. They were heard with the greatest attention, and received unanimous applause. A second "reading," at Stafford House, is announced for Monday next.

DERBY NEW MARKET HALL.—The walls of the new Market Hall are now finished and ready to receive the roof. Some delay has been occasioned through the alteration of the original design for the roof, necessitating an entirely new set of plans for this part of the work. They have been prepared by Messrs. Ordish & Le Feuvre, of Westminster, engineers, under whose superintendence the iron roof is being carried out, Mr. Lucas, from their office, being clerk of works. The brick, stone, and wood-work, &c., which are under a separate contract, are being completed under the superintendence of Mr. George Thompson, borough surveyor, who was appointed by the market committee in place of Mr. Thorburn.

LIVERPOOL SURVEYORSHIP.—The town council, after some discussion, have resolved to confirm an arrangement made by the local Finance Committee in a report on the duties of the surveyor and of his department; recommending, firstly, that the services of Mr. Weightman be retained, at his present salary, as consulting surveyor, and to manage the whole of the Corporation property, properly so called. Secondly, that a competent person be engaged to have the care of, and to be responsible for, all the buildings in the possession of the Corporation (with certain exceptions), the conduct of the purchases of all property required to be taken by the Corporation under the various Improvement Acts obtained from time to time by the council, and the preparation of plans, &c. And, thirdly, that the gentleman to be engaged as surveyor be experienced in his profession; not above forty years of age; and that his salary be 800*l.* per annum.

WATER SUPPLY FOR RIPON.—At a special meeting of the Ripon corporation, the report of Mr. Filliter, C.E., borough surveyor, and engineer to the waterworks, at Leeds, with respect to the different schemes for supplying the city of Ripon with a constant supply of pure water, was read. At the close of his report Mr. Filliter says,—"Finally, and to recapitulate, I have adjudged the premium for the best and most practicable scheme to Messrs. Stevenson & Utley, of Halifax, but consider Mr. Charlton's and Mr. J. K. Radford's plans are nearly equal thereto. I do not recommend any purchase of the existing waterworks. I advise that further examination be made of the following sources and schemes;—the river Skell above Aldfield Spa; the Lady Well springs, and any others of similar quality that may be discovered; the Kez-beck at or about Toad Hole Wood, as suggested by Mr. J. K. Radford; the water-wheel pumping scheme of Mr. A. Charlton from the river Ure; the river Laver beyond the magnesia limestone district. The corporation will find it advantageous to postpone their decision, if practicable to do so, until the ensuing dry season has passed." It was resolved by the meeting that the premium of fifty guineas be paid to Messrs. Stevenson & Utley, of Halifax.

SOUTH KENSINGTON MUSEUM. — During the week ending 9th July, 1864, 13,940 persons visited the Museum.

RAILWAY RETURNS.—The traffic returns of railways in the United Kingdom, published for the week ending the 2nd of July, amounted, on 11,308 miles, to 666,565*l.*, and for the corresponding week of 1863, on 10,906 miles, to 611,769*l.*, showing an increase of 402 miles, and of the sum of 54,796*l.* in the receipts.

THE DINING HALLS COMPANY.—This company, to advance the object of which Lord Brougham, Lord Shrewsbury, and others have given their names, is established to supply the industrial classes with good and cheap food (a substantial dinner being provided for 4d.). Hopes of pecuniary success are founded on the results of the Surrey Cooking Depôt, New Cut, the purchase of which is one object of the company. Looking into the accounts of this establishment, we found the profits about 20 per cent., and the customers well satisfied too.

THE MURDER ON THE NORTH LONDON RAILWAY.—With reference to some recent outrages in railway-carriages, a correspondent says,—Have two or three long plate-glass squares about 10 inches wide glazed upright, not only in the partitions of each compartment, but also in the ends of the carriages, so that any passenger can see not only through the carriage, but likewise throughout the whole length of the train. There can be no doubt, that if the parties riding in the next compartment to Mr. Briggs could have seen into the one where he was, this foul murder would never have been attempted. Open carriages from end to end like the ordinary third-class are much safer than the closed compartments of the second and first class; but then they are very liable to give cold by some one keeping the windows down at the back of your neck.

PETROLEUM IN AMERICA.—Writing on this subject in the "Journal of Science," Dr. Draper, of New York, says:—The exact source of petroleum is, up to the present, uncertain; whether it has all been produced by distillation from bituminous coal, anthracite being formed at the same time; or whether it has resulted directly from the bituminous fermentation of marine plants antedating the coal, and containing a larger proportion of hydrogen. The amount thrown out by some of the wells is enormous. One of them ejected 3,740 barrels a day, three 1,000 barrels, one 800 barrels. To "strike ile," has become throughout that region the synonym for rapidly growing wealthy. It has entirely displaced all other means of lighting, except gas. The great desideratum is a perfect chimneyless burner.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.—In the interest of the poor of London we are glad to observe that the much-neglected subject of skin diseases has at last attracted serious attention. The establishment of St. John's Hospital, Westminster, we believe, is calculated to supply a great public want, its laudable object being to place the poor of London in an equally favourable position with those of continental cities—as Paris and Vienna; the former possessing the richly endowed Hôpital St. Louis, devoted solely to treatment and study of cutaneous maladies. The principle of St. John's is, we are glad to observe, free admission; so that the poor man can obtain every necessary attention, and that daily, without loss of time, which to him and his family is of so great importance. Moreover, much benefit to science may be anticipated from careful observation in the hospital; and the objections urged against special hospitals (in which we participate), cannot apply to the present case, when we find it stated in a leading medical periodical, the *British and Foreign Medical and Chirurgical Review*, in reference to the want of opportunity in studying and learning skin diseases in England, that medical students constantly come to the end of their hospital life without being able to name or recognise with certainty the most common diseases of the skin. The knowledge which has been entirely neglected during the period of studentship is seldom acquired in the busy years of later life; and probably there are no branches of medical knowledge so neglected and so little understood by English practitioners as the diagnosis and treatment of skin diseases. The extent to which these diseases prevail and the misery they produce are nevertheless enormous.

GAS.—The Boston Gas Company's directors have determined to recommend to the shareholders a dividend of 8½ per cent. at their annual meeting.

CHELTENHAM WATER SUPPLY.—The prospectus of a new water-company for supplying Cheltenham with water has been issued. The capital is estimated at 125,000*l.* which it is proposed to raise in shares of 5*l.* each, and the water is to be conducted from the springs at South Cerney.

BEDFORD DRAINAGE.—Mr. C. Trapp, of Manchester, has undertaken, for twenty guineas, to examine the plan of Mr. Usher for the drainage of the town. The sum, said the mayor, in announcing the circumstance, is much below the usual professional charges; but Mr. Trapp being a native of Bedford, and the corporation not a very rich one, he offered his services at the sum named, and will present his report in due course.

THE OLD CASTLE WALL AT SOUTHAMPTON.—Another endeavour to induce the Corporation to purchase and preserve this interesting relic, at a cost of 45*l.* for the wall, or of 300*l.* for the wall and its site together, has failed. In the council Mr. Stebbing urged, that whilst they were building a Hartley Institution, renovating the Bargate, improving the parks, and doing all they could to render the town attractive, it would be an act of vandalism to permit the destruction of a relic of the past, which constituted a remain of the old Norman works, by which they could trace the system of fortification which existed in former times. Mr. Tucker asked why those interested in the relic did not themselves subscribe and purchase it, instead of demanding for the purpose a grant from the public funds? Surely this interesting and historical landmark will not be allowed to be destroyed from want of so small a sum as is required for its preservation.

NEW JOINT-STOCK COMPANIES.—The number of new joint-stock companies brought out during the first half of the present year was 171. They represented a total capital of 116,203,500*l.* A great number have failed to establish themselves, and have been withdrawn; and the actual amount of shares taken would probably not represent more than 50,000,000*l.* Of the total 116,000,000*l.* of proposed capital about 53 per cent. was for banks and finance companies, 14 per cent. for the conversion of various industrial establishments already in existence into joint-stock associations, 12 per cent. for steam and other shipping enterprises, 6 per cent. for insurance companies, 5 per cent. for railways, 5 per cent. for estate investments, and about 1 or 2 per cent. for hotels. Last year, although the total capital proposed for companies seemed enormous, it did not amount to more than 100,000,000*l.*; while the progress of concoction this year has been at the rate of 232,000,000*l.* for the twelve months.

ACCIDENTS.—At Bury a fatal accident has occurred, resulting in the death of Mr. George Dewhurst, master bricklayer, of Heywood. Mr. Dewhurst's men were employed at Bury in finishing a factory chimney, 90 feet high; and, being anxious to have the work completed by a certain time, Mr. Dewhurst went to the top of the chimney for the purpose of expediting the workmen. He took part in the finishing process himself, and assisted to lay one of the cornice stones, on the top of which he stood after it was fixed. It is supposed that one of the legs of the triangle used for hoisting the stones must have been placed on a lower level than the other two, as it suddenly turned over, precipitating Mr. Dewhurst, and the stone on which he was standing, to the bottom of the chimney. Mr. Dewhurst fell through the roof of a weaving-shed, breaking in his fall not only through the roof, but also through two thick joists of wood, and alighting on a young woman who was at work in the shop. All efforts to restore consciousness were unavailing, Mr. Dewhurst expiring shortly after the accident happened.——For about a week a number of men in the employment of Mr. Graham Holmes, contractor, have been engaged in painting the inside of the roof of the market-hall, Birmingham. The work has been performed by means of a moveable scaffolding, which reached to the roof of the hall. As three men were at work upon the scaffolding at the end of the hall nearest the Bull-ring, it suddenly overbalanced, and the men were thrown to the ground. They fortunately escaped without any serious injury.

RESULTS OF SETTING CAPITAL FREE.—Within the eight years elapsed since the passing of the main Act, 3,830 limited companies have been formed, with an aggregate of 42,085,073 shares, and a nominal capital of 429,103,622*l.*—*Parl. Return.*

A PLAGUE-STRICKEN TOWN.—The Spanish journals mention the outbreak of a dangerous malady in the city of Murcia:—In constructing the railway which passes through that place, a large mass of earth was excavated from the neighbourhood of the city for the purpose of making the embankments. At the spot whence the earth was taken a quantity of stagnant water has since collected, the malaria from which is said to have produced an epidemic fever, with all the characteristics of a plague. More than 1,500 persons in Murcia and the environs have been attacked, and a large number of deaths have already taken place. A manifestation against the railway company, by the population, lately took place, and more serious disturbances were feared.

SALE OF BUILDING SITES AT REDLAND, BRISTOL. Messrs. Alexander and Daniel, auctioneers, recently submitted, for public competition, some valuable property at Redland, including sites for first-class villa residences. The property was offered in four lots, the first being the freehold residence known as Redland Green House, to which are attached two closes of pasture land, which have an extensive frontage to the road leading from Redland to Durdham Down. This lot was knocked down to Mr. G. O. Edwards, for the sum of 3,050*l.* Mr. J. G. Hobbs was the purchaser of the second lot, which consisted of a close of building, and about ten acres and a half in extent, and having a good frontage to Durdham Down. This lot realised 4,000*l.* Mr. Joseph D. Weston was the highest bidder for both the remaining lots. No. 3 adjoins the second lot, and consists of twenty-eight acres of pasture land. The sum given for it was 3,800*l.* The last lot, for which 4,500*l.* were given, consisted of a farmhouse, outbuildings, and forty-one acres of pasture land, forming part of Cold Harbour Farm. It is anticipated that a number of new villas will be erected at Redland, on portions of the land now sold. The number of detached residences built lately in the neighbourhood of Bristol is wonderful.

TENDERS.

For alterations at the Coach and Horses, St. Martin's-lane, for Mr. Parsons:—

Sellick	£1,020 0 0
Langmead	893 0 0
Jeff, Brothers	874 0 0
Langtree	850 0 0
West	750 0 0

For new front and alterations to Moira Chambers, Ironmonger-lane, for Mr. Charles Champion. Mr. James Dudley, architect:—

Coll	£1,184 0 0
Ashby & Sons	1,158 0 0
Turner & Sons	1,139 0 0
Scrivener & White	1,067 0 0
Adamson & Sons	1,015 0 0

For the erection of seed stores, in the King's-road, Reading, for Messrs. Sutton. Mr. W. Brown, architect. Quantities supplied:—

Kendell	£1,398 0 0
G. Strong	1,377 0 0
Wheeler & Sons	1,354 0 0
W. Strong	1,352 0 0
Woodroffe	1,348 0 0
Matthews	1,333 0 0
Sheppard	1,275 0 0
Sawyer	1,239 0 0
Barnicoat	1,223 0 0
Biggs	1,189 0 0
Norris (accepted)	1,130 0 0

For the erection of a new wing to the Ray Tavern, Cookham, for Messrs. Langton, Burrows, & Co. Mr. W. Brown, architect:—

Harley (accepted)	£547 0 0

For erecting warehouse, No. 223, High-street, Wapping, for Messrs. Innes. Messrs. Aitchison & Son, architects. Quantities supplied:—

King & Sons (accepted)	£1,976 0 0

For erecting three warehouses, Commercial-street, Whitechapel, for Mr. D. Falcke. Mr. H. H. Collins, architect. Quantities by Mr. Pearson:—

Patman & Fotheringham	£7,587 0 0
Trollope	7,494 0 0
Brown & Robinson	7,380 0 0
Macey	7,318 0 0
Myers	7,251 0 0
Stevenson	7,188 0 0
Newman & Mann	7,162 0 0
Hill & Sons	7,000 0 0
I'Anson	6,944 0 0
Sharpington & Coles	6,899 0 0
Simms & Martin	6,769 0 0
Brass	6,726 0 0
Hill & Keddel	6,692 0 0
King & Sons	6,650 0 0

For rebuilding offices, &c., Abbey-wharf, Reading, for Messrs. Ridley & Son. Mr. W. Brown, architect. Quantities supplied:—

Norris	£762 0 0
Sheppard	736 0 0
Kendell	726 0 0
Matthews	716 0 0
Barnicoat	710 0 0

For erecting three warehouses, Commercial-street, Whitechapel, for Mr. M. Levy. Mr. H. H. Collins, architect. Quantities by Mr. Pearson:—

Patman & Fotheringham	£8,851 0 0
Trollope	8,771 0 0
Brown & Robinson	8,738 0 0
Macey	8,714 0 0
Myers	8,633 0 0
Hill & Keddel	8,394 0 0
Stevenson	8,316 0 0
Newman & Mann	8,297 0 0
Hill & Sons	8,284 0 0
I'Anson	8,214 0 0
Simms & Martin	8,000 0 0
Sharpington & Coles	7,997 0 0
Brass	7,919 0 0
King & Sons	7,845 0 0

For the erection of a presbytery, at Woolton, near Liverpool, for the Rev. J. P. O'Brien. Mr. E. Welby Pugin, architect. Quantities supplied by Mr. Marples:—

Ward, Brothers	£1,894 0 0
Hill	1,540 0 0
Crowther	1,485 0 0
Gore	1,425 0 0
Hughes	1,397 0 0
Pollock	1,395 0 0
Glaister (accepted)	1,361 0 0

For the erection of a public-house, at Little Berkhampstead, Herts, and removing old house. Mr. Robert T. Andrews, architect. Quantities supplied:—

J. Collins	£343 10 0
Norris	324 13 6
Birt	324 10 6
C. Collins (accepted)	314 13 6

For the erection of new offices, at Burton-on-Trent, for Messrs. Ind, Coope, & Co. Mr. James Fairclough, architect:—

Branson & Murray	£1,970 0 0
Lowe & Sons (accepted)	1,750 0 0

For branch banking-house, Walsall, for the Staffordshire Joint-Stock Banking Company. Mr. George Bidlake, architect:—

Highway (accepted)	£2,275 0 0

For alterations and repairs to the Plough Tavern, Fore-street, City, for Mr. Riches. Mr. W. Lambert, architect:—

Richardson	£987 0 0
Yardley	779 10 0
Thomas	667 0 0
Larke	620 0 0
Hodges	587 0 0

For building new Masonic hall, Oxford, for the Apollo University Lodge of Freemasons. Mr. Edward G. Bruton, architect:—

Bartlett	£1,490 0 0
Castle & Co.	1,257 0 0
Jones & Sons	1,320 0 0
Cowley	1,283 0 0
Baker	1,150 0 0

For domestic offices and additional bedrooms for the directors of the Clarendon Hotel Company, Oxford. Mr. Edward G. Bruton, architect:—

Baker (accepted)	£1,137 0 0

For new oak sashes, plate-glass windows, and cement front to the Clarendon Hotel, Oxford. Mr. Bruton, architect:—

Baker (accepted)	£396 0 0

For the enlargement of goods warehouse and new granary, at Bricklayers' Arms Station, fer the London, Brighton, and South Coast Railway Company. Mr. F. D. Banister, architect. Quantities supplied:—

Sawyer	£5,434 0 0
Reddin	5,190 0 0
Matthews	5,127 0 0
Peskett	4,995 0 0
Meyers & Son	4,941 0 0
Boothman & Broomhead	4,885 0 0
Hill & Keddell	4,788 0 0
Thorn	4,765 0 0
Wardle & Baker	4,700 0 0
Moxon	4,650 0 0
Jackson & Shaw	4,600 0 0
Anscomb	4,444 0 0
W. Perry	4,444 0 0
J. Perry, jun. (accepted)	4,200 0 0
Wilson & Raynham	3,887 0 0

For the erection of All Souls' Church, St. John's Wood. Messrs. Wadmore & Baker, architects. Quantities prepared by Messrs. White & Thacker:—

Warne & Co.	£5,600 0 0
Patrick & Son	4,775 0 0
Brass	4,760 0 0
Mansfield & Son	4,725 0 0
Patman & Fotheringham	4,700 0 0
Rivett	4,663 0 0
Myers & Son	4,613 0 0
Rowe	4,518 0 0
Scrivener & White *	4,487 0 0

* Accepted, subject to certain alterations.

For the St. Thomas's Lunatic Hospital, in the parish of Heavitree, Devon. Mr. W. F. Cross, architect:—

Pollard	£32,945 0 0
Spiller	28,830 0 0
Finch	27,844 0 0
Monss	27,820 0 0

For house and shop, in High-street, Battersea, for Mr. Scott. Mr. Charles Bowes, architect:—

Lathey, Brothers (accepted)	£208 0 0

For house and shop, St. John's-hill, Wandsworth-road, for Mr. Samuel Foster. Mr. Charles Bowes, architect:—

Eastoe	£1,170 0 0
Gates	885 10 0
Furner	847 15 0
Thornton	845 0 0
Lathey, Brothers (accepted)	760 0 0

For building detached residence, coach-house, stable, &c., at Shooter's-hill, Kent, for Captain Harrison, Royal Artillery. Messrs. Wm. Gosling & Son, architects. Quantities supplied:—

Dover	£2,888 18 9
Sutton	2,485 0 0
Grey	2,450 0 0
Sykes	2,360 0 0
Ring & Wainman	2,230 0 0
Tongue	2,150 0 0
Thompson	2,100 0 0
Greig	1,950 0 0
Sonnex	1,790 0 0
Lidbetter	1,720 0 0

For alterations to the church of St. Mary the Virgin, Northam, Devon. Mr. W. F. Cross, architect:—

Gush	£1,500 0 0
Cock	1,013 0 0
Hookway	770 0 0
Reed	759 0 0
Dendle	652 16 0
Yeo	636 0 0
Ball	581 12 0

For the erection of villa residence, at Fant-fields, Maidstone, for Mr. W. Varney. Mr. J. H. Andrews, architect:—

Shadgett	£1,469 0 0
Pryer	1,404 0 0
Naylar & Son	1,143 0 0
Anscomb (accepted)	1,131 0 0

For landing-wharf, on the banks of the Thames, Erith Marshes, for Messrs. Charles Price & Co. Mr. Hubert Ford, architect:—

Cavey (accepted)	£1,060 0 0

For sewer, and drainage to ten houses, in Limerstone-street, Chelsea. Mr. George C. Handford, architect:—

Moxon	£877 0 0
Scrivener & White	688 0 0
Thirst (accepted)	585 10 0

For the erection of forty-six model dwelling-houses, at Wimbledon, for the Rev. Alfred Peache. Mr. James G. Smither, architect:—

	38 Houses.	8 Front Houses.
Mitchell (accepted)	£7,689	2,355

For alterations and additions to Nos. 27 and 28, Whitechapel-road, for Messrs. Clayton. Mr. F. G. Widdows, architect:—

Flint	£1,600 0 0
Rivett	1,543 0 0
Hill & Co.	1,385 0 0
Child & Son	1,350 0 0
Wood, Brothers	1,335 0 0
Sewell & Son	1,298 0 0
Ennor	1,247 0 0

For the North End Sewer, Fulham:—

Wigmore & Whittick (accepted)	£9,500 0 0

For making up carriage-way in the Cedar-road, Fulham:—

Elsey	£160 10 0
Johnson	160 0 0
Wigmore & Whittick	139 10 0
Coats	85 0 0
Harvey	85 0 0

TO CORRESPONDENTS.

T. G.—H. M. (the *Builder* goes to press on Thursday night).—J. D.—H. T.—Beta.—R. T. A.—A Subscriber's Wife.—A. B. H.—W. B.—T. W. (appears to have no features calling for illustration).—G. B.—Mr. N.—W. W.—Mr. W.—W. M.—R. G. B.—A. R.—C. H D.—W. L. (oak).—B. & S.—J. R.—A. K.—W. & R.—J. B.—J. H. M.—R. M. L.—Blackburn (next week).—T. A. S.—G. S.—J. F.—C. G.—H. H.—W. G.—J. G.—J. S. (send block).—T. C.—S. P.—C. J. P.—Castel Dinas Brân (in type).—Mr. N.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

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[ADVERTISEMENT.]

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